SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

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Questions? Write and You'll Get Answers

State Offers Two In-Plant Math Courses

San Diego State College will offer graduate-level extension courses at Convair for the first time, beginning next week.

"Advanced calculus" and "modern algebra" courses will be taught at the Kearny Mesa plant by assistant professors from the college and will be open to employes who are college graduates with a strong math background.

The two 16-week courses are among 10 required for the master's degree in math.

"Advanced calculus" will be offered from 4 to 5:15 p.m. Mondays and Thursdays in Bldg. 17, Rm. 8, beginning Jan. 8 with Dr. Robert Kopp as instructor.

"Modern algebra" will be offered from 4 to 5:15 p.m. Tuesdays and Thursdays in Bldg. 17, Rm. 2, beginning Jan. 9 with Dr. Albert Froderberg as instructor.

Jack Croft, chief of educational services, said tuition costs will be underwritten by Convair as part of the division's Management Upgrade program. Textbooks will cost the student $8.50 for the "advanced calculus" and $8.95 for the "modern algebra" course.

Each class will be limited to 23 students. Advance registration may be made by phoning David Chigos at educational services, ext. 1931 KM.

Attendance must be on the employe's "own time." Employes working after 4 p.m. may obtain Form A3784 from educational services to request a 40-hour irregular work-week. The request must be approved by the individual's supervisor and department head before authorization is granted.

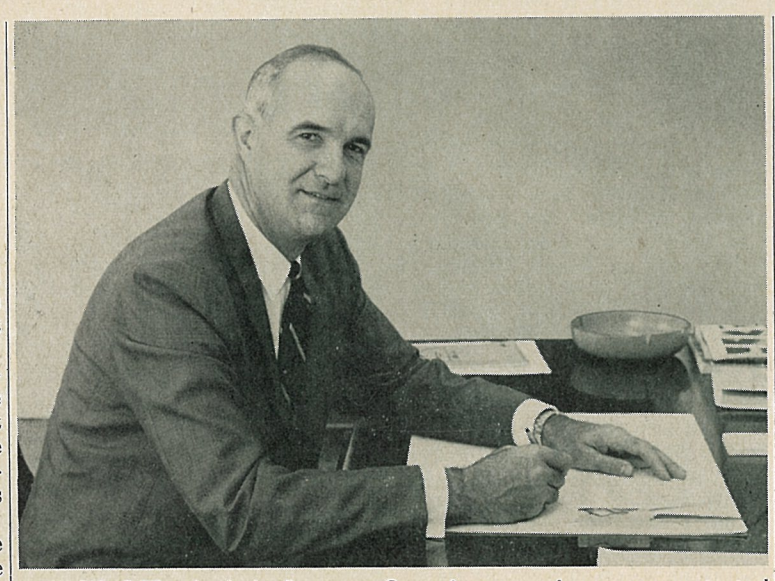
Croft said arrangements have been made with the college for graduate-level extension courses to be offered at Convair facilities to make it easier for employes to earn advanced degrees.

Additional courses required for the MA in math will be offered after completion of the two initial courses.

In-plant extension courses leading to the master's degree in business administration are scheduled to be offered later.

Salvage Schedule

Next employes sales day at the Convair salvage yard at the Lindbergh Field plant, adjacent to gate 5, will be Saturday, Jan. 6. Hours are from 8 a.m. until noon.



KICK OFF—Jack L. Bowers, Convair general manager, started New Year for division by announcing new two-way communication program by which employes may send in questions and receive answers on Company-related subjects.

Follow-on Contracts Up Copter Parts Task

Follow-on contracts from Hughes Tool Co. totaling $760,425 have been received by Convair division for production of more than 93,000 detailed parts and 500 pilot's floor assemblies for the U. S. Army OH-6A "Cayuse" light observation helicopter.

Convair has turned out more than 628,000 detailed parts for the helicopter program since October, 1966, under an initial $3,780,000 contract and has produced more than 30 major assembly fixtures for Hughes under a separate $400,000 contract. Other miscellaneous parts have been fabricated under additional contracts totaling about $200,000.

George M. Loudermilk, Convair program manager, said detailed parts under the initial contract are being completed at an average of 75 "ship sets" or about 30,000 parts per month at Kearny Mesa and Air Force Plant 19.

The new contracts include $700,000 for production of 400 "ship sets" of detailed parts and $60,425 for the pilot's floor assemblies — with continuous factory production through November of this year.

Hughes is building 1,071 of the "Cayuse" 'copters for the Army. Several already are in use in Viet Nam.

The parts and fixtures produced by Convair have been used by Hughes at its Culver City plant, Rose Canyon assembly plant in San Diego and Palomar Airport test facility in Carlsbad, Calif.

"Hughes management has been pleased with the parts we have produced," Loudermilk said. "We have had less than 1 per cent rejection and all

(Continued on Page 2)

Goals Report Slated From Bowers Today

Major Convair division objectives for 1968 are to be presented in detail by Jack L. Bowers, general manager, at meetings for supervision today (Jan. 3) at Kearny Mesa and Lindbergh Field.

Bowers also is to report on how well the division performed in meeting its 1967 objectives.

Division Will Receive Award In Zero Defects Achievement

Convair division will be awarded the U.S. Air Force Systems Command's Zero Defects Achievement Award in ceremonies at 4:30 p.m. Friday (Jan. 5) in the Kearny Mesa plant cafeteria.

Lt. Gen. John W. O'Neill, Air Force Space and Missile Systems Organization (SAMSO) commander, will present the award to Convair division of General Dynamics.

Among those attending will be Brig. Gen. Robert A. Duffy, SAMSO deputy for re-entry systems; Col. Leo W. Sullivan, SAMSO deputy for launch vehicles; Col. James R. Ourand, Defense Contract Administration Services plant representative; and Ronald Rovenger, NASA Lewis Research Center resident representative.

Convair division supervisors from Kearny Mesa, Lindbergh Field and Air Force Plant 19 will attend.

Gen. James Ferguson, commander of the Air Force Systems Command, has extended "personal congratulations" to the employes of Convair.

The award will be the first of its kind for an aerospace firm in the San Diego area and the 12th awarded in California.

Electronics Modifying Navy Tracking Ships

Electronics division has received an executed contract in the amount of $7,344,000 for the modification of two instrumentation tracking ships for the Navy. This supersedes an earlier letter contract.

Administrative and operational responsibility for the modification of the USNS General Hoyt S. Vandenberg and the USNS General H. H. Arnold will be assumed by the Electronics division's San Diego operations, under management of D. C. Prim.

The Naval Air Systems Command, Washington, D. C., is the contracting agency for the two-year effort.

Modification required by the contract will double the tracking capability of the ships and permit independent operation of each of the existing tracking radars. The improved tracking radars will be equipped with automatic target acquisition and re-acquisition data processing and recording and visual display systems for use in identifying and tracking re-entry and near-earth orbiting vehicles.

Bowers Announces 'Q and A' Program

Establishment of a "no holds barred" Question and Answer program for Convair employes was announced this week by General Manager Jack L. Bowers.

Employes may write their questions or comments, on any Company-related subject, address the envelope to "Question and Answer" (or just Q & A), Convair, Mail Zone 100-01. Include name and home address. Answers will be mailed to the writers' homes. Those of general interest will be carried as a regular feature in **GD/NEWS.**

Identity of letter writers will be absolutely protected so that employes are free to ask any question without fear of embarrassment or recrimination.

"I want to make one point quite clear," Bowers said in announcing the program. "Your first line of communication should be between you and your supervisor. We do not mean to disturb that relationship. However, if you feel your question should be answered by someone else, or if you feel uncomfortable in asking your supervisor, then I hope you will use this new channel to speak out on any Company matter of importance to you.

"We are initiating this program after considerable study of similar programs conducted by other companies," Bowers said. "Some have been singularly successful, such as Lockheed's 'Dept. X' and IBM's 'Speak Up', where sincere and honest answers are given regardless of whether the questions are tough or easy.

"In those companies where similar programs have been tried and failed, it has been principally because management only wanted to answer the easy questions, and dodged or declined the hard ones.

"We do not intend to make that mistake.

"Your questions will indicate if we're doing the right things in the right way; our replies can keep you informed and help to settle any problems that may be on your mind.

"Probably there will be some questions that we cannot answer because we don't know the answer ourselves. Someone might ask if we intend to enter a certain competition and if the decision has not yet been made, we would have to answer it just that way. Or customer security or matters of proprietary interest could be involved. However, I assure you that we will not hide behind security, and will not use that as an excuse when it is not truly justified.

"Mail Zone 100-01 is my office at the Kearny Mesa plant. The letters will be collected there and handed unopened to the person I appoint to coordinate the program. He will be the only one with access to the writers' identities. He is under my orders to reveal them to no one, not even myself. As soon as a question has been answered, the original letter and all record of the writer's name will be destroyed.

"I'm sure that there will be many occasions when the writer would not mind having his name known, but we are taking these precautions for the benefit of those who might not otherwise write," Bowers said.

"Every effort will be made to respond to questions as soon as possible. In the event a question requires time-consuming research, the writer will be notified of the reason for the delay. Questions may be written on any kind of paper, but I urge you to print your name and address, to ensure legibility, and to make sure you receive an answer," Bowers concluded.

Q and A Highlights

Send your questions or comments either by U.S. mail or Company mail. If U.S. mail, address them to "Q and A," Mail Zone 100-01, Convair, Box 1128, San Diego, 92112. If Company mail, address to "Q and A," Mail Zone 100-01.

* * *

Include name and home address. All questions will be answered by mail to the writer's home. In addition, those considered of general interest will be published in *GD/NEWS*, without divulging the writer's name. Unsigned letters, obviously, cannot be answered by mail.

* * *

Identity of writers will be absolutely protected and as soon as answers have been obtained, the original letter and all record of the writer's identity will be destroyed.

* * *

Print names and addresses to assure legibility.

A-C 15 to Launch Final Surveyor

Convair's Atlas-Centaur 15 stands ready at Complex 36-A at Cape Kennedy for its launch Sunday (Jan. 7) to send the seventh and final Surveyor spacecraft on its way to the moon.

E. E. Barringer is AC-15 project engineer and Daniel Sarokon will be launch conductor.

Tentatively scheduled to join NASA and Air Force officials at the Cape for the launch are Roger Lewis, General Dynamics president, and Convair division officials including Jack L. Bowers, general manager; Grant L. Hansen, vice president-launch vehicle programs; Andrew Kalitinsky, director of launch vehicle programs engineering; Deane Davis, Centaur program manager.

Boat Trailers to Go To Highest Bidders

Two boat trailers will be sold through Convair material sales to the highest bidder.

The two-wheel pleasure boat trailers may be inspected at the Lindbergh Field salvage yard this week and on the regular open sales day this Saturday, Jan. 6. Forms also are available at the yard. Bids will be closed by Jan. 10.

Log Book Entries

Papers Presented

CONVAIR

BOEKAMP—K. M., Dept. 149-0. "Nondestructive Testing, a Challenge to Management." Air Transport Association of America/NDT Subcommittee Meeting, Atlanta, Ga., Nov. 14-17.

HAMLIN—D. A., R. W. LOWEN, D. H. SOWLE, Dept. 596-0. "Results of Recent Research on Debres-Air Interaction for High-Altitude Nuclear Explosions," and "Some Multiburst Effects on High-Altitude Nuclear Explosion Phenomenology." 24th AMRAC Meeting, Monterey, Calif., Nov. 14-16.

GREEN—C. J. Dept. 170-1. "Simulation of a Traveling Repairman Problem." SHARE/Conference on Applications of Simulation Using the General Purpose Simulation System (GPSS). New York, Nov. 13-14.

MERTEL—H. K., Dept. 542-0. "Contemporary EMI Instrumentation and Fundamental Radio Receiver Parameters." Meeting of the IEEE Group on Electromagnetic Compatibility, Seattle, Wash., Nov. 29.

PENZES—L. E., Dept. 966-9. "Free Vibrations of Thin Orthotropic Oblate Spheroidal Shells." Acoustical Society of America, Fall Meeting, Miami Beach, Fla., Nov. 14-17.

PETTYJOHN—R. R., Dept. 572-1. "Thermal Conductivity Measurements on Fibrous Insulating Materials." National Bureau of Standards' Seventh Conference on Thermal Conductivity, Gaithersburg, Md., Nov. 13-15.

Awards

CONVAIR

Employe Suggestion awards approved for the week ending Dec. 8.

Dept. 001-0, C. R. Thompson; 005-0, C. R. Puterbaugh; 015-0, J. R. Laccabue Sr., R. Menzie, J. H. Samuel; 019-0, J. T. Whitfield (three awards); 027-0, P. W. Byrd, F. J. Serio; 031-0, E. Weems; 045-0, I. Bracamontes, I. D. Howarter; 142-1, A. L. Nooe; 143-1, J. B. Miller (two awards); 143-4, R. S. Hull; 149-7, B. A. Ross; 150-0, M. M. Hashiguchi; 250-1, H. E. O'Neil; 250-2, B. L. Keim; 250-3, W. H. Apple, B. A. Rusk; 420-0, J. B. Martinez Jr.; 566-1, R. A. Rogers; 574-5, W. S. Wight; 578-1, R. R. Rote, 578-3, C. A. Young; 588-1, E. J. Porter; 717-0, J. M. Boyer; 733-0, T. L. Duenez Jr., S. Serrano; 780-2, E. L. Thorpe; 834-1, B. Fortin; 843-0, E. Lee Vogt; 957-0, R. R. Reekers.

Employe Suggestion awards approved for the week ending Dec. 15.

Dept. 015-0, W. R. Coyle, R. Hogue; 027-0, R. R. Brown, M. J. Lynn, Steve Persley; 059-4, C. E. Thornton; 142-1, I. L. Le Duc; 143-1, J. B. Miller; 146-1, B. H. Peyton; 146-4, J. R. Frogge; 149-7, H. C. French; 250-1, A. R. Dyer; 250-3, B. A. Rusk; 401-5, E. Wargo; 420-5, J. E. Anderson; 460-0, F. A. Boyle; 519-0, T. P. Balistreri; 542-0, G. R. Barkley; 758-0, A. Corrao; 761-0, L. A. Donahou, P. E. Grasmick; 763-0, J. D. Willingham; 780-3, H. D. Akers; 831-0, L. Von Tungeln; 833-2, M. M. Wood; 840-0, J. C. Hydle; 842-0, M. C. Hight.

Retirements

CONVAIR

BAULT—Dale J., Dept. 953-3. Seniority date Sept. 30, 1955, retired Dec. 3.

BERGTOLD—Alfred L., Dept. 967-4. Seniority date April 30, 1952, retired Dec. 1.

CROSBY—Truman A., Dept. 810-0. Seniority date July 8, 1957, retired Nov. 15.

FERGUSON—Paul I., Dept. 143-1. Seniority date May 11, 1956, retired Dec. 15.

MILLER—Charles A., Dept. 400-1. Seniority date Aug. 22, 1950, retired Dec. 1.

MILLER—Ralph S., Dept. 979. Seniority date Feb. 2, 1959, retired Nov. 24.

MRVICHIN—Millard M., Dept. 553. Seniority date July 20, 1953, retired Nov. 5.

WOLVERTON—Royal A., Dept. 142-1. Seniority date Feb. 28, 1961, retired Dec. 15.

Rider-Driver

CONVAIR

RIDE WANTED—From E. Park & Mollison Sts., El Cajon, to Kearny Mesa plant. 7:30-4:15 shift. Call Chuck Willey, ext. 1393 KM, or home phone, 442-8271.

Personals

CONVAIR

It was very thoughtful of you to send the lovely flowers at the time of my husband's death.

Mrs. L. S. Franklin and the children

* * *

We wish to thank our many Convair friends for their assistance and expressions of sympathy following the death of our son, Pfc. Raymond F. Garcia Jr., in Viet Nam.

R. F. Garcia
Dept. 250-5

* * *

Your sympathy and kindly thoughts at the death of Edwin E. Hartzler (retired 1960) will always be held in grateful remembrance.

The Hartzler family

* * *

Your kind expressions of sympathy after the death of Henrietta S. Rinder (retired 1964) are deeply appreciated and gratefully acknowledged.

The Rinder family

Births

CONVAIR

FRENCH—Daughter, Renee, age 2 months, adopted Nov. 10 by Mr. and Mrs. Marvin French, Dept. 588-0.

General Dynamics News

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Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Invention Disclosures

CONVAIR

HUJSAK—E. J., Dept. 952-5. Deployable Radiation Shield.

KOENCY—J. E., Dept. 596-0. Micro Ozone Generator.

McPHERREN—G. E., Dept. 999-6. Hospital Commode.

O'BARR—G. L., Dept. 572-1. High Ratio Gear Reduction Unit (Capabilities of Over 10^6/1.)

SMITH—T. C., Dept. 491-1. Torque Limiting Mechanism for Hilok Right Angle and Ratchet Type Offset Drivers.

In-Plant Training

ORIENTATION

NEW EMPLOYES — Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Monday, Jan. 8, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 14 auditorium, Tuesday, Jan. 9, 8 a.m. and 4:30 p.m.

AF Plant 19, ext. 491 LF, Bldg. 3, 1st mezz, Col. B-14 conference room, Thursday, Jan. 11, 8 a.m.

CITY COLLEGE COURSES

Registration for four spring semester supervision courses began Jan. 2. "Human Relations A" will be given at Lindbergh Field, Bldg. 14, Mondays, 4-7:30 p.m. Courses at Kearny Mesa Bldg. 17 will be "Advanced Industrial Economics," Mondays, 4:30-7:30 p.m.; "Human Relations B," Wednesdays, 4:30-7:30 p.m.; "An Introduction to Supervision," Wednesdays, 4:30-7:30 p.m. For information call David Chigos or Hal Rubin, ext. 1931 KM.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF STUDY — A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Ray Blair to Head San Diego 'Y' Board

Ray T. Blair Jr., assistant to the general manager of Convair, has been elected president of the San Diego City-County Young Men's Christian Association board of directors.

Blair, whose association with YMCA activities extends back to his childhood, succeeds Patterson N. Hyndman.

Average attendance at YMCA events was more than 79,000 a month during 1967. A swimming pool was built at the Southeast YMCA branch and building sites were obtained for Escondido and Encinitas branches.

PATENT ATTORNEY PASSES CALIF. BAR

Neil F. Martin, Convair division patent attorney, recently passed the California state bar examination and will be admitted to practice by the California Supreme Court in ceremonies Monday (Jan. 8).

Admission to the California bar will enable Martin to take depositions and participate in proceedings in California courts as the need arises. He also will be admitted to local federal district courts.

Martin holds a bachelor's degree in mechanical engineering from Lehigh University in Bethlehem, Pa., and his law degree from The American University in Washington, D.C.

His primary duty with Convair is in preparation, filing and follow-up of patent applications and related matters. He previously had been admitted to practice in Virginia and the District of Columbia.

S-C's Con-Trib-Club Votes $200 to Needy

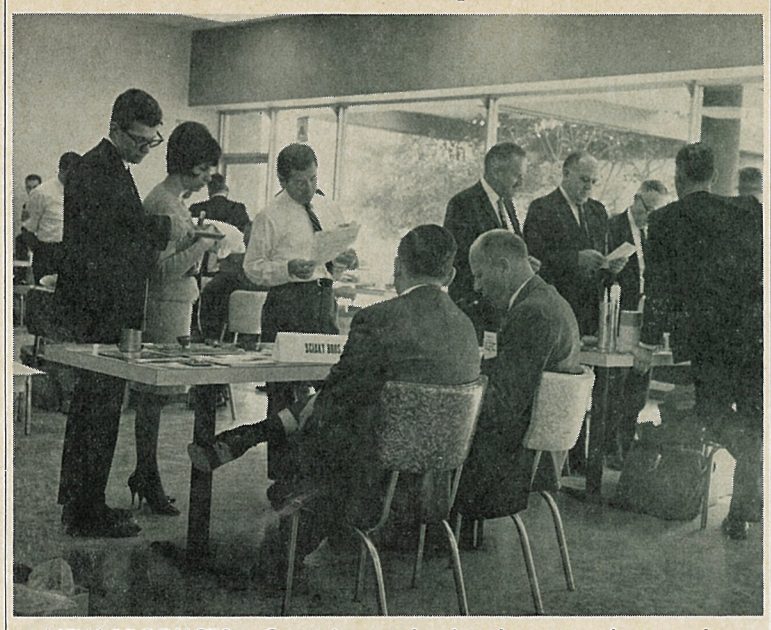
Stromberg-Carlson Data Products' Con-Trib-Club donated $200 to the Salvation Army this year to provide Christmas dinners for needy families. People at the El Cajon plant held their own collection to swell the goodwill contribution by a couple of large boxes of groceries and many toys, instead of buying the usual Christmas cards for co-workers.

Show by Suppliers Draws Crowds at LF

One of the best-attended suppliers' shows held at Convair drew crowds of over 100 steadily throughout display hours Dec. 11 at the Lindbergh Field plant cafeteria.

Nineteen companies showed their wares, ranging from castings to electronic filters.

Arranging the show, held in conjunction with a value engineering workshop then in progress at Lindbergh Field were Forrest Sterling and R. B. Thompson.



NEW PRODUCTS—Convair people view latest products and processes at recent suppliers' show set up in Lindbergh Field cafeteria. Display drew crowds of interested spectators during 11 a.m. to 4 p.m. open hours.

Seabee Home From Viet Nam Visits Convair to Say Thanks

A young Seabee interrupted his Christmas leave to say "thank you" to Convair well-wishers who had sent packages to servicemen in Viet Nam before the holidays.

Douglas Pike of Seabee Mobile Construction Battalion 11 was at Dong Ha when the packages arrived the first of December. He said "the boys were delighted and wanted to thank the folks responsible." Thus, his stop at Convair's Lindbergh Field plant while en route home to Minnesota for Christmas with his family.

A drive begun by Lindbergh Field transportation snowballed with raw stores and shipping people joining. Altogether 38 boxes were packed with small items which could be used by boys in the war zone. Girls in military spares packaging prepared the bundles for shipment.

The Christmas packages contained Koolaid, soups, cocoa, razor blades, shaving lotion, pens and pencils, checkers and other small games. And, after all the items were gathered, another collection had to be taken to raise the postage — $25.65.

Half of the gifts went to the Seabee battalion and the rest to a Marine company, Co. O, 2nd Battalion, 28th Infantry of the First Division.



"THANKS"—Douglas Pike of Seabees Mobile Construction Battalion 11 (right foreground) shakes hands with Bill La Fountaine of Convair transportation at Lindbergh Field while on visit to plant to say thanks for gifts sent boys in Viet Nam. Looking on are some of people from LF transportation, shipping, and raw stores who helped in collection drive.

Tom Hemphill Will Retire; Veteran Designer of Aircraft

Tom Hemphill, long-time Convair engineer and recently, a value engineering specialist, will wind up his years of service with the Company the end of this week.

Hemphill joined Consolidated Aircraft at Buffalo, N. Y., in June, 1931, after graduating from Cornell University with a degree in mechanical engineering.

During his years with the Company he has been pre-designer, project engineer, or chief project engineer on 18 aircraft, including trainers, propeller fighters, commercial transports, land propeller bombers, flying boats, and jet fighters.

Among some of the designs he has been responsible for is Convair's first hydraulic brake system, variable pitch propeller installation, retractable flying boat floats, to mention a few.

He personally operated and maintained the former Astronautics division's Radio Telescope Facility at Clark Lake, Calif., from 1961 to 1963. He did radio astronomy research there for the division, the National Bureau of Standards, University of Maryland, and Stanford Research, Inc.

He is well known in the area as a satellite tracker, developing equipment for tracking and photographing satellites over the last several years.

Follow-on Contracts Up Copter Parts Task

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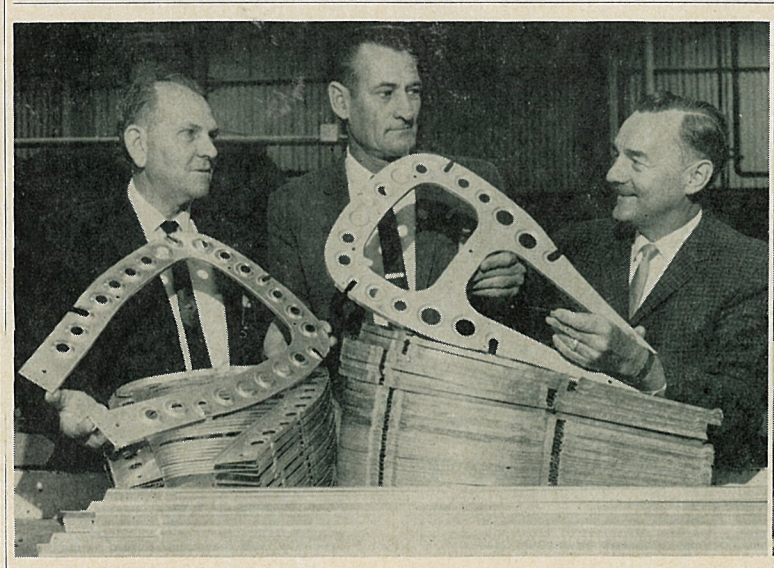
deliveries have been on schedule."

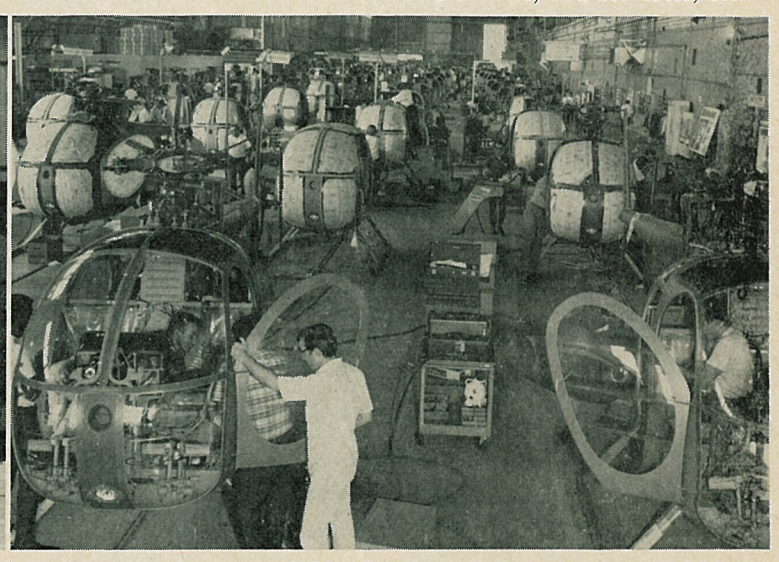
About 95 per cent of the parts have been made from sheet metal with most requiring hand forming after initial drop-hammer or other forming operations.

About 80 Convair employes are currently working in the program on tooling, machine shop, sheet metal, processing and painting tasks.

Don Evanson is operations proposal leader. Factory work is under supervision of Merle Goodhart and Jack Kline at Kearny Mesa and Clyde Medearis at AF Plant 19.

Loudermilk said Convair also is submitting bids for production of additional detailed parts, pilot's floor assemblies, pilot's door and door frames, and for tools, etc.





"CAYUSE" PARTS—Looking over parts produced by Convair for Hughes Tool Co. for use in U. S. Army "Cayuse" light observation helicopter, left photo, are, left to right, Merle M. Goodhart, supervisor of sheet metal Dept. 732-0; George M. Loudermilk, program manager; and Don Evanson, operations proposal leader for program. Hughes is assembling aircraft (right photo) and testing at Culver City, San Diego and Carlsbad, Calif. All deliveries of parts built by Convair have been on schedule.



CONCLAVE—Members of GD Metrology panel met at FW division recently. From left, standing: A. J. Woodington, Convair; G. I. Robinson, Canadair; E. E. Murphy, FW; F. L. Broccolo, Stromberg-Carlson-Rochester; E. R. Bader, Electronics-Rochester. Seated: W. R. Holmes, Electric Boat; P. I. Harr, Corporate Headquarters; E. E. Brewer, Pomona; C. G. Franklin, Electronics-SD.

Metrology Panel Meets For Exchange of Data

Nine representatives from various divisions and Corporate Headquarters attended a General Dynamics Metrology (science of measurement) Panel Dec. 4-5 at Fort Worth division.

Attending were: P. I. Harr, Corporate Hdq.; E. E. Brewer, Pomona (chairman); G. I. Robinson, Canadair; A. J. Woodington, Convair; W. R. Holmes, Electric Boat; E. R. Bader, Electronics/Rochester; C. G. Franklin, Electronics/San Diego; E. E. Murphy, Fort Worth; and F. L. Broccolo, Stromberg-Carlson/Rochester.

The Metrology Panel was formed about two years ago to: improve calibration techniques and efficiency; reduce calibration costs; and improve capabilities of equipment and procedures.

"Topics covered at this meeting, such as calibration procedure indexes, preferred test equipment listings, and others, have resulted in substantial savings to some divisions through sharing available information," Murphy said.

He added: "One of the prime functions of the Metrology Panel is the interchange of information and data . . . interchange of managerial data in the form of work methods and procedures is fully as important. . . ."

The meeting also included a tour of the assembly line.

Secretary of Treasury Sends Congratulations

Congratulations to all the "men and women of General Dynamics" were included in a letter from Secretary of the Treasury Henry H. Fowler to Roger Lewis, GD president, commenting on success of the 1967 Savings Bonds campaign.

"You have set an important example to the business community and the Nation," he wrote. "The 17,919 employes who enrolled as new Payroll Savers and the 8,919 regular savers who signed up for increased allotments have placed you high on the honor roll of company Savings Bonds campaign leaders. The signing up of 7,756 employes for Freedom Shares is also a noteworthy achievement.

"These outstanding results are in keeping with the strong leadership you have long given the Payroll Savings Plan. You, the other members of your campaign team and your associates throughout General Dynamics are carrying on the tradition of helping your country when it most needs that help."

GD Committee Standardizing Materials and Procedures

Dave Austin Jr. of Electric Boat was chosen new chairman of the General Dynamics Reproduction Standardization Committee at the last inter-divisional meeting held in Montreal, Canada.

Austin succeeds H. B. Day of Convair, who has headed the committee since its formation two years ago.

Formed to standardize materials and procedures of graphic reproduction functions in the divisions as a cost-saving measure, the committee is now in the process of standardizing weights, grades, and sizes of printing papers.

Toner used for electrostatic copiers and reproduction equipment will also be standardized and purchased from one source, saving thousands of dollars a year.

Volume purchase agreements have already been negotiated for blueprint papers and office copier equipment and materials.

Also, the divisions now are exchanging surplus equipment when possible instead of purchasing new. Technical knowledge is exchanged at the periodic meetings in an effort to standardize graphic reproduction techniques.

Others present at the meeting, hosted by Canadair, Ltd., besides Austin and Day were C. M. Barlow of Corporate Headquarters; J. L. Baird, Pomona; Clayton Cottrell and C. J. Fimmano, Electronics; M. B. Gross and D. E. Wall Jr., Fort Worth; John Warner, Canadair; C. T. Talbott, F. L. Pike, and Roy Blunt of Convair; J. T. Lee and Richard Nash of Quincy division.

Corporate Inspection Team Checks Fire Hazards For GD Divisions

A fire inspection team, headed by Theodore Bernard, General Dynamics construction engineer, last month completed a periodic review of GD facilities in the San Diego area, with the exclusion of Convair's Kearny Mesa plant.

Regular fire inspection of the some 400 General Dynamics plants, off-site facilities, and other locations is held at least once a year and as often as three times a year to assist divisions in keeping facilities as fire-safe as possible, explained Bernard, who with J. W. Morley and Sam Testa are assigned to cover all GD plants in this country and Canada.

Bernard's territory includes Convair, Pomona, Fort Worth, Quincy, Electric Boat divisions, Canadair Ltd. Morley inspects Material Service, Electronics, Stromberg-Carlson plants, and Electro Dynamic division. Testa tours Liquid Carbonic facilities.

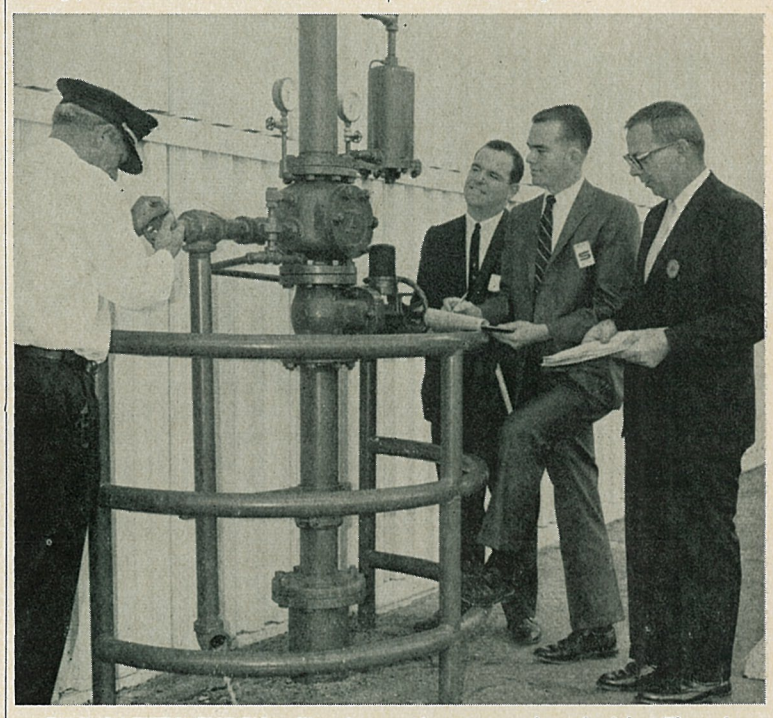
The Corporate fire prevention policy, which went into effect a couple of years ago, is directed by Warren Feddersen, GD director of manufacturing. C. L. Hartshorn, Corporate plant and facilities engineer, is directly over the program.

Inspections are made in conjunction with insurance carriers at locations where inspection service is provided. In the case of the recent inspection of San Diego facilities, representatives of both the Factory Insurance Association and Factory Mutual System assisted Bernard. Facilities undergoing scrutiny included Convair's Lindbergh Field plant, AF Plant 19, Harbor Drive test facility, and San Diego operations of Stromberg-Carlson and Electronics. Kearny Mesa plant will be inspected in February.

The inspection, which covered a period of two weeks, included review of hazardous processes and test of all fire protection equipment. Also, the team took a look at fire safety regulations related to smoking, cutting and welding procedures, use and handling of flammable liquids.

Bernard said that fire safety conditions at Convair facilities are excellent.

Scheduled are inspections of Electric Boat and Quincy in January; Canadair, Pomona, and Convair Kearny Mesa in February; Fort Worth division and Convair again in April. Daingerfield division also will be reviewed in April.



FIRE SAFETY CHECK—Fire inspection team, headed by Theodore Bernard of GD Corporate Headquarters (far right), watches Convair Fire Marshal Hugh Rae activate sprinkler system of shot peen facility during periodic check of Lindbergh Field plant. Other men on team are Tom Vlahos, Factory Mutual System engineer, and Ted Davidson, Factory Insurance Association engineer.

Convair Men Attend Wright Memorial

Eight Convair division representatives and their wives attended the annual Wright Brothers Memorial banquet Dec. 15 in Beverly Hills, Calif.

They were Jack L. Bowers, G. L. Hansen, W. L. Van Horn, C. S. Ames, C. W. Blakey, Robert Lutz, Ray Soper and George Gould.

Kitty Hawk Memorial awards were presented at the banquet to Col. Robin Olds, Viet Nam flying ace, and William M. Allen, Boeing Co. president. The annual banquet, sponsored by the Los Angeles Chamber of Commerce, commemorates the Wright Brothers' first aerial flight at Kitty Hawk, N. C.

O. W. Harper Will Chair Dynamics' Product/Logistic Support Panel

O. W. Harper, Convair manager of customer service, has been named first chairman of the General Dynamics Product/Logistic Support Panel established to standardize product support policies and procedures for GD divisions and subsidiaries.

R. W. McGuffee, manager of 111 logistic support at Fort Worth, will serve as vice chairman for the term, ending in November of this year.

The panel was formed in spring of 1967 under the direction of J. Y. McClure, Corporate director of product support and field service. Objective is the review of all aspects of product support, including spares, customer service, field service, and service engineering, for both commercial and military customers. The panel also is charged with keeping divisions informed on latest Department of Defense requirements and regulations.

Panel members are divisional managers of product support. Represented so far are Convair, Electronics - Rochester, Electric Boat, Fort Worth, Pomona, Quincy, Stromberg - Carlson - Rochester, and Canadair, Ltd.

Two workshops are held each year with the next scheduled at Pomona in March.

You can buy U. S. Savings Bonds regularly for as little as 50 cents a week.

Laddon Scholarship Deadline of Feb. 1 Set

Applications are being accepted now for the I. M. Laddon Scholarship, sponsored by General Dynamics Corporation.

The scholarship, which honors General Dynamics' veteran member of the Board of Directors, provides for $3,500 per year, plus transportation, for five years attendance at McGill University, Montreal, Quebec, Canada.

Laddon is a McGill alumnus, class of 1915.

Any U. S. resident who is academically qualified and has not reached his 22nd birthday by Feb. 1 of the year of acceptance is eligible.

"We hope to find an exceptionally well qualified candidate in an area where General Dynamics has major operations so that we may maintain liaison with the I. M. Laddon Scholar and offer guidance and summer work opportunities," Roger Lewis, General Dynamics president, commented.

However, the Feb. 1 deadline for the school year 1968-1969 is less than a month away.

To be considered, applications must have been received by McGill prior to that date. Application forms are expected to be available this week at educational services offices at major GD facilities. In the larger cities application forms are being made available to high school principals. Also, they may be obtained by writing H. T. Brooks, manager of personnel placement, New York Headquarters. Forms include one for the Laddon Scholarship, one applying for admittance to McGill and one for housing.

"This is one of the most generous scholarships offered anywhere," Algie A. Hendrix, Corporate vice president, declared. "Although it is open to all, I would advise General Dynamics parents with talented sons who are high school seniors to consider applying."

The General Dynamics Board of Directors authorized the scholarship coincident with Laddon's 40th year with the Company and called attention to his contributions as "engineer, inventor, designer and administrator."

At that time, Lewis stated:

"This scholarship has been created in recognition of the education which Mr. Laddon received at McGill and in the hope that it may give other American students the basis for similarly successful careers."

An automotive engineer in Detroit before World War I, Laddon joined the U. S. Air Service Engineering division and became chief of its design branch in 1919. From 1927 to 1935 he was chief engineer for Consolidated Aircraft and was elected to the Board of Directors in 1931. From then on he rose to vice president-engineering, 1935-1939; general manager, 1939-1941; executive vice president and general manager, 1941-1943. With the merger of Consolidated and Vultee Aircraft he became executive vice president of Consolidated Vultee (Convair.) He resigned from that post in 1948 but continued to serve on the Board of Directors. In 1954 when Convair became a division of General Dynamics, he was elected to the Corporation Board and continues to serve as a director. His home is in San Diego, Calif.

People Mobility

Appointments and Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

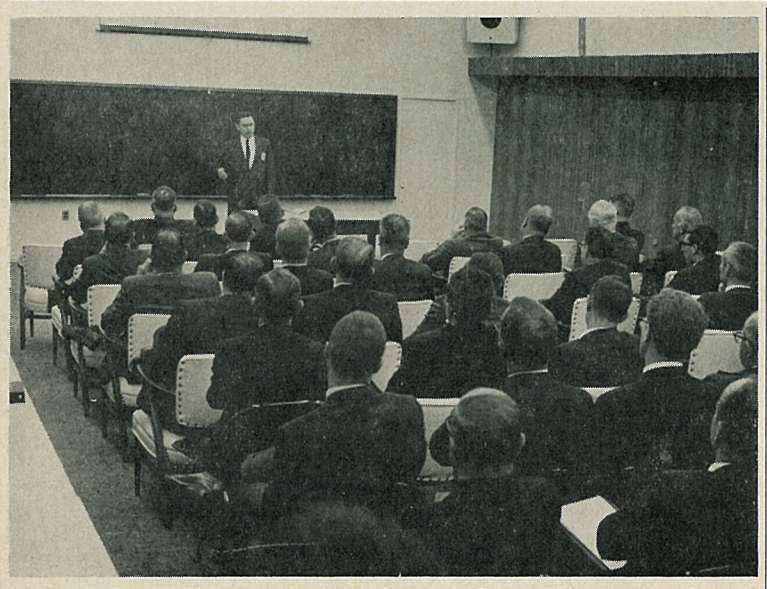
WILLIAM J. CUSHMAN (1951) from Convair division to group foreman, Pomona Division; **JOSEPH F. BROWN JR.** (1958) from Convair to Pomona as outside inspection representative; **SAMUEL J. LOMBARDO** (1959) from Convair to engineering drawing checker, Electronics, San Diego; **FRANCIS H. WHITTON JR.** (1966) from Convair to Stromberg-Carlson Data Products as mechanical design engineer; **DAVID C. CLARK** (1961) from Convair to senior engineer, Electronics, San Diego; **JACK L. REICH** (1954) from Convair to systems analyst, Pomona; **PAUL WILLIAMSON** (1960) from Convair to Corporate Headquarters; **ROBERT A. GIVEN** (1951) from Convair to Electric Boat.







VSX VISITORS—At Convair division recently to inspect mockup and models of Company's proposed version of VSX carrier-based anti-submarine warfare aircraft for Navy are from left, in cockpit of mockup, Capt. Edison E. Mouton, Air ASW Systems, Office of Chief of Naval Operations (in foreground), Donell E. Lewis, Electronic Systems, VSX Program Office, NASC. At far right is Earl Boteler, Convair's VSX program director. Tom Munn, Convair VSX interior furnishings designer, is hidden from view by Capt. Mouton. In center shot R. M. Sewall, assistant to Convair vice president of research and engineering, explains mockup to Capt. W. D. Taylor and group from USS Wasp, ASW carrier, based at Boston, Mass. They were Cdr. H. C. Springer, Cdr. C. C. Carter, Cdr. N. K. Green, LCdr. T. J. McMahon, LCdr. T. G. Evans, LCdr. Thomas Flanary. At far right is W. D. Wood, Convair requirements manager. Photo at right shows Capt. N. O. Wittmann, Director of Aircraft Weapon Systems Division, NASC, Washington, D. C., also trying out cockpit. Groups were at Convair in separate visits first part of last month.



VE WORKSHOP—James M. Adamson, Convair manager of Lindbergh Field operations, points up importance of controlling costs at final session of Dec. 4-15 Value Engineering Workshop held at Lindbergh Field plant.

Cutting Costs of Operations Key To New Business, Says Adamson

"Getting the cost of operations down is the lifeblood of our organization," James M. Adamson, manager of operations at Convair's Lindbergh Field plant, told the 40 men completing a Value Engineering Workshop last month.

The second VE Workshop held at Convair during 1967, and the first at Lindbergh Field, ran from Dec. 4 through Dec. 15.

"With serious, dedicated people, like yourselves, properly motivated to reduce costs and still maintain the quality of the product, there is no limit to the amount of business we can capture," Adamson continued in the closing session.

He also pointed out the number of new products now in Convair's stable, as disclosed in team presentations. Projects were drawn from F-111 programs in-house, Standard ARM, C-5, and Centaur production. Reports showed that savings could be achieved in most areas examined.

Taking part in the two-week workshop were the four Air Force officers, now assigned to Convair in the Education-With-Industry program. They are Majs. A. J. Hendrick and D. A. Johnston, Capts. Robert H. Berry and Albert H. Smith Jr.

Everett Lindem of Convair educational services coordinated the workshop.

Team members, department numbers, projects and project leaders were:

Team No. 1—Fin-external fuel tank; support-fin, external fuel tank (submitted by Glenn Bancroft, Dept. 561-0). Robert Goodrich (531-2), W. E. Herring (144-1), D. A. Johnston (EWI), K. J. Walker (002-0), James Wyckoff (533-1). Project leader, A. B. Lutterman (561-0).

Team No. 2 — Pivot pylon, wing adapter (submitted by Bancroft). Tom Roach (002-0), F. N. Bergen (511-7), E. S. Gurling (400-1), R. D. Johnson (149-0), Robert Pasqueretta (532-1). Project leader, Lutterman.

Team No. 3—Fwd. Standard ARM adapter, fairing. Aft Standard ARM adapter, fairing (submitted by W. O. Mitchell, Dept. 561). D. R. Dunbar (511-6), Ernie Gonzales (833-1), D. C. Maguire (015-0), Albert H. Smith (EWI), V. S. Yerebeck (531-2). Project leader, R. A. Smalley, Dept. 575-1.

Team No. 4—Fairing-side, vertical stabilizer (submitted by Dick Thompson, Dept. 059.) Scott Beemer (533-2), W. H. Behrens (144-0), Nicholas Grubnich (532-1), C. F. Hanson (400-1), Phil Holloway (400-3). Project leader, Smalley.

Team No. 5—Support Rendezvous beacon (submitted by Thompson). Robert H. Berry (EWI), Sherman Cohen (543-5), J. E. Dorsch (145-1), R. E. Moore (780-0), J. J. Wheeler (561-0). Project leader, W. H. Jaeger, Dept. 561-0.

Team No. 6—Ladder-access, vertical stabilizer (submitted by V. L. Floore, Dept. 059). G. A. Gibbons (149-0), John Harrison (544-5), J. A. Pardubsky (491-0), E. E. Perkins (511-6), R. J. Ratliff (016-0). Project leader, Jaeger.

Team No. 7—Door support strut assembly (submitted by Al Lutterman). R. P. Anastasio (511-2), E. G. Ferreras (511-6), A. J. Hendrick (EWI), C. H. Lloyd (145-1), J. M. McClendon (015-0). Project leader, E. C. White, Dept. 130-3.

Team No. 8—Moveable bracket (submitted by E. G. Callard). F. K. Bench (491-0), Thomas Boyer (561-0), R. R. Lyman (149-0), O. D. McGraw (027-0), G. R. Theilacker (511-2). Project leader, White.

Convair Man Named To Director Post

H. W. Arnold of Convair Dept. 020-0, has been elected a director of the American Aviation Historical Society for the next year.

The Society consists of over 4,000 members in the United States and Europe. Main objective of the organization is publishing a quarterly Journal to keep alive all phases of aviation history from the beginning of recorded data until the present.



Hosts For Foreign Students Solicited

General Dynamics families with an interest in hosting an American Field Service foreign teen-age student during the 1968-69 school year may obtain details on the program by phoning Les Dassoff, Convair Dept. 143-3 reliability project administrator, and chairman of the Kearny High School AFS home selection committee, at ext. 2546 KM.

AFS students are 16 to 18 years old and come from 60 countries in Europe, Africa, Asia, Latin America and the South Pacific. There is no requirement that the foreign student have a separate room or an American "brother" or "sister" of his own age, although either or both may be desirable.

W. R. Walker Is First To Earn Runner Pin

William R. Walker, Convair Dept. 454-0 foreman, was awarded the first new "CRA Runner" lapel pin Dec. 19 for accumulation of 300 miles as a runner in the CRA Health Club's physical fitness program.

R. C. Christopher, also of Dept. 454-0, was second in total mileage standings on Dec. 19 with 223.7 miles recorded.

Certificates are being awarded to each runner reaching the 100 and 200-mile marks.

Ralph Mansfield, Health Club director, said about 80 men are running on a regular basis from the club.

Surveyor 6 Scores 'First'

Surveyor 6, launched in November by Convair's Atlas-Centaur 4, became the first man-made object to "take off" from the lunar surface when its venier engines lifted it 10 feet off the surface 8 days after its landing.



APPRECIATION AWARD—William F. Rice, right, receives San Diego Junior Colleges' "testimonial of appreciation" award from Kenneth D. Fawcett, coordinator of vocational education. Award was for contributions to quality control and reliability education program.

William Rice Receives Award For College QC Leadership

William F. Rice, a Convair Dept. 146-3 senior quality control engineer, last month was given a surprise "testimonial of appreciation" award by San Diego junior colleges before leaving San Diego for a new Pomona division assignment.

Rice has represented Convair and the San Diego section of the American Society for Quality Control (ASQC) in establishing and developing certificate and degree programs in quality control and reliability for the junior colleges during the past six years.

Kenneth D. Fawcett, coordinator of vocational education, presented the award at a meeting of the colleges' advisory council for quality control and reliability education.

The award, the third of its kind ever presented, expressed appreciation to Rice for his "many contributions" to the vocational education program. "Your leadership will long be remembered."

Rice volunteered to teach the first San Diego Evening College course in quality control in 1961 to help meet a need in industry. There are now more than 350 students enrolled in 21 courses at San Diego Evening College and San Diego Mesa College.

More than 125 students, many of them General Dynamics employes, have been awarded certificates or Associate in Science degrees through the program.

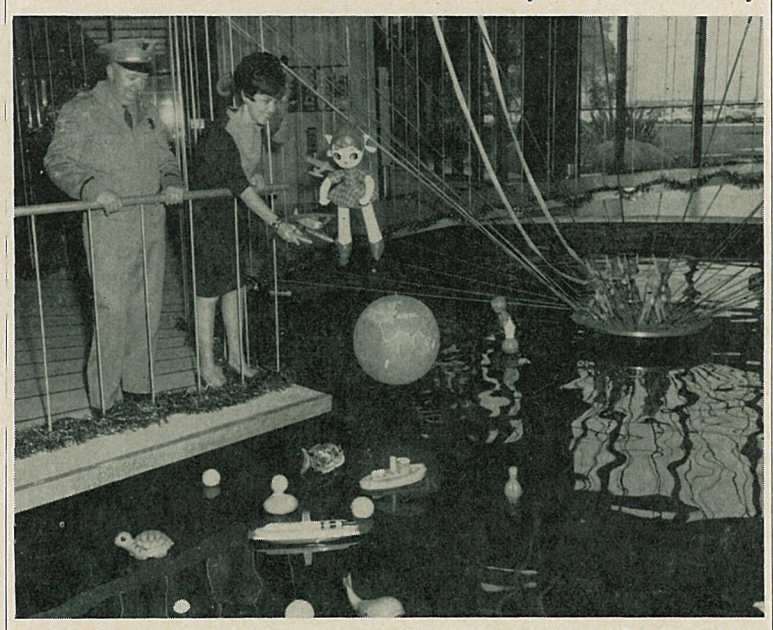
Members of the council include K. M. Boekamp, G. C. Kolsky, L. I. Medlock, C. A. Miller, S. S. Smith, and A. J. Woodington, all of Convair; and A. E. Hinck and J. Z. Mraz, both of the Defense Contract Administration Services plant representative's office.

Among 18 faculty members for the program are R. T. Anderson, W. A. Dersham, P. E. Gelles, S. W. Gill, F. S. Graham, W. T. Hollar, E. Y. Martindale, William Olson, J. H. Rusk, R. W. Shaffer, Fred Thompson and R. D. Woodward, all of Convair, and C. E. Wilson of NASA's Lewis Research Center project office.

Gift Toys Add Color To Reflection Pool

Floating toys that added a lot of color to the Bldg. 2 lobby reflection pool at Convair's Kearny Mesa plant for several days also helped St. Nick make children from several underprivileged families happy on Christmas.

M. J. Chilcote, a Dept. 130-1 plant security guard, conceived the idea for brightening up both the pool and the youngsters' Christmas. Dept. 130-1 personnel and other employes filled the pool with about 150 floating toys. Distribution of the toys to needy families was made just prior to Christmas by the Salvation Army.



SANTA'S HELPERS—Karen Little, Convair Dept. 524-0 clerk, prepares to "launch" amphibious plane in Bldg. 2 reflection pool at Kearny Mesa as guard M. J. Chilcote observes. Floating toys were given to needy children for Christmas.



S-C PARTY PLANNERS—Stromberg-Carlson Data Products recreation committee, from left, Jack Swank, George Elmore, Nate Waddington, Trudy Rice, Jim Pascarella, and (kneeling) Carl Creager, were responsible for annual Data Products holiday dinner-dance which drew 630 to El Cajon Elks' Club Dec. 16.

Susan Miller First to Receive Pop Beam Memorial Trophy

Susan Miller was surprised recipient of the Pop Beam Memorial Trophy awarded by the CRA Riding Club to its outstanding teen-age member at the awards dinner held Dec. 16.

"Even though Susan doesn't own a horse, she is one of the most faithful workers for the club," said Scotty Payne, club president. "She and her family never fail to respond when help is needed. She is a girl we can all be proud to honor."

Susan's name will be the first on the trophy, donated in memory of Mrs. Payne's stepfather, a strong backer of the riding club.

Two youngsters tied for overall high standing in all club events. Sheri Special and Davy Watson, who compete in the 12 and under division, had identical standings to beat out their elders.

High standings in equitation were held by Gayle Dvoracek, 18 and over division; Charlann Harmer, 12-17 yr.; and Sandra Nash, 12 and under. High awards in gymkhana went to Ken Smith, 18 and over; Mike DeLeonardo, 12-17; and Yvonne Maillet, 12 and under.

Gayle Dvoracek, Judy and David Watson Sr., and Conrad Nash were given silver buckles for representing the club as Color Guard in civic parades. Buckles also went to Commissioner Steve Berry and George Schmiedel, CRA business manager. Floyd Branscom, emcee, received a ham. Mickey Underwood, Sam Special, Gerry Washburn, Jack Miller, and Nash won door prizes.

CRA Fencers Reach Finals

Eighty-two fencers from 14 clubs in Southern California competed in the eighth annual invitational tournament sponsored by the CRA-affiliated San Diego Fencers Club at San Diego State College.

The San Diego Fencers Club had 12 men and 4 women among 29 local fencers entered.

Mike Hurley of Convair's Dept. 966-7, CRA fencing commissioner, took sixth place in the men's finals.

Hurley's wife, Barbara, garnered fourth place in the women's finals against competition that included former Olympic fencer Maxine Mitchell.

Hurley said the San Diego Fencers Club will resume its weekly practice schedule Friday (Jan. 5) at 7:30 p.m. in the San Diego YWCA.

Convair Team Wins Net Match With NEL

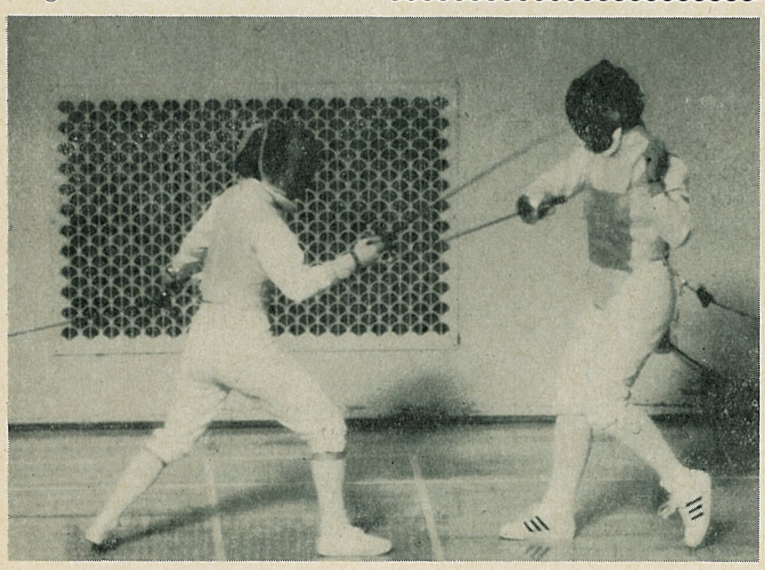
Convair tennis players won men's all singles and doubles events and took 11 out of 14 matches with Naval Electronics Laboratory at an NEL-sponsored tournament Dec. 9 on City College courts.

Playing for Convair were Mr. and Mrs. Dennis Sealy, Mr. and Mrs. Mike Griggs, Mr. and Mrs. Sam Kaye, Bill Miller, Dave Gorham, Stan Griffin, Bill Connor, Bob Herold, Dick Mostowy, Don McClarren and Cecil Norwood.

550 Shotguns Boom At Gillespie Field

A total of 550 entries was tabulated in one of the best-attended turkey shoots ever staged by the CRA Gun Club Dec. 17 at Gillespie Field range.

A hundred squads took part in trap and skeet target shooting. At times there were as many as 30 to 40 people lined up for a spot on squads, said Commissioner Jack Swank. Targets were provided by the club, free of charge, and a prize went to the winner in each squad.



FENCING FINALS—Barbara Hurley, left, wife of Mike Hurley, CRA fencing commissioner, and Linda Crabtree of Los Angeles meet in finals of recent tournament sponsored by CRA-affiliated San Diego Fencers Club. Barbara placed fourth and Linda sixth in women's division.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is Jan. 9. Call ext. 1071 LF or 3322 KM.)

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ADVENTURERS—Meeting Jan. 17, CRA Clubhouse, 7:30 p.m.

BADMINTON—Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park. Call Al Van Norman, ext. 1864 KM.

BICYCLE CLUB—50-mile ride to Felicita Park, Jan. 13. Leave CRA Clubhouse at 7:30 a.m. 25-mile Point Loma ride, Jan. 27. Leave Shelter Island at 9 a.m. Sunday short rides leave Islandia Hotel at 2 p.m. weekly.

BRIDGE—Play each Friday, 7:30 p.m., CRA Clubhouse.

CERAMICS—Meetings Tuesdays and Thursdays, 7-10 p.m., CRA Clubhouse.

CHESS—Play Wednesdays, 7:30 p.m., CRA Clubhouse.

CHORUS—Rehearsals Tuesdays, 7:30 p.m., CRA Clubhouse. Call Jim Pate, ext. 3034 KM; Jo Anne Bray, ext. 1091 LF; or Walt Minor, ext. 1111 KM after 4:30 p.m.

COINEERS—Meeting Jan. 17, 7:30 p.m., Convair cafeteria, Lindbergh Field.

DELTA DIVERS—Meeting Jan. 10, 7:30 p.m., CRA Clubhouse.

FENCING—Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FISHING CLUB—Meeting Jan. 16, Gillespie Field. Field trip to Lake Jennings Jan. 13-14.

GARDEN CLUB—Meeting Jan. 3, 7:30 p.m., Floral Association Bldg.

GOLF—CRA tourney Jan. 20-21 at Cottonwood. Sign before Jan. 17, ext. 1111 KM.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Mondays through Fridays; 10 a.m. to 5 p.m., Saturdays. Call ext. 1111 KM.

HI/FI-MUSIC—Meeting Jan. 9, 7:30 p.m., CRA Clubhouse.

ICE SKATING—GD family skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

PISTOL CLUB—Club shoot Jan. 14, 9:15 a.m., SD Police Pistol Range.

RADIO CLUB—Meeting Jan. 4, 7:30 p.m., CRA Clubhouse.

RIDING CLUB—Meeting Jan. 10, 7:30 p.m., CRA Clubhouse.

RIFLE CLUB—Junior shoot Jan. 6, 1 p.m.; senior shoot Jan. 10, 7 p.m., Gillespie Field Range.

ROCKHOUNDS—Meeting Jan. 10, 7:30 p.m., CRA Clubhouse.

ROLLER SKATING—Free skate night Jan. 15, Skateland, Front & G Sts. Tickets at employe services.

SPORTS CAR CLUB—Meeting Jan. 10, 7:30 p.m., Convair executive dining room, Lindbergh Field.

SQUARE DANCING—Combined Dynamic Eights and beginners dance session Jan. 4, 8 p.m., CRA Clubhouse.

STAMP CLUB—Meeting Jan. 11, 7 p.m., CRA Clubhouse.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m., CRA Clubhouse.

TOASTMISTRESS CLUB — Meeting Tuesday, Jan. 16, 7 a.m., Convair executive dining room, Kearny Mesa.

TROPICAL FISH—Meeting and workshop Jan. 8, 7:30 p.m., CRA Clubhouse.

WOMEN'S GOLF—Tourney Jan. 13 at Whispering Palms.

Bicycle Club Plans Felicita Park Ride

CRA Bicycle Club has scheduled a 50-mile ride to Felicita Park near Escondido, Saturday, Jan. 13.

Riders will leave CRA Clubhouse at 7:30 a.m. and pedal along Pomerado Road en route to the park. Additional information can be obtained by phoning the ride leader, Al Brown, at 273-9802.

A 25-mile Point Loma ride also is scheduled Jan. 27. Ride leader is Richard Gilbert, phone 223-8848.

Short scenic rides are held at 2 p.m. each Sunday with Islandia Hotel on Mission Bay as starting point.

Zeich and Greer Win Turkeys in Shoot

Dick Zeich and Dick Greer took home the turkeys for high standings in the CRA Rifle Club's senior luck shoot Dec. 3.

Juniors who won turkeys in their Dec. 2 contest were James Allen, Loretta Glick, Steve Greer, and Paul Fox.

Seniors and juniors will renew their memberships this month with the beginning of a new year. Dues for seniors are $3 each; juniors, $2.

Hunter safety courses, prerequisite for juniors, run continuously at Gillespie Field range. For information call 448-1825.

You Can Become Regular Bond Buyer For 50 Cents a Week

Golfers to Play Variety Of Courses During '68

An expanded golf program will kick off the new year for Convair linksmen, according to Fire Chief Del Dimmitt, newly-appointed CRA Golf Commissioner.

Monthly tournaments will continue to be scheduled over a two-day weekend each month but at a wider variety of courses throughout the San Diego area. Awards in all flights will be increased with trophies, gift certificates, and golf balls.

Results will be available the Monday following the tourney through CRA Headquarters, ext. 1111, Kearny Mesa, and prizes may be picked up the same day at fire stations at both Lindbergh Field and Kearny Mesa plants.

Notice of tourney dates and course will be announced on flyers posted on CRA bulletin boards throughout all plants and in the preceding issue of GD/NEWS.

Starters will be stationed on first tees at each tournament to explain tourney rules to foursomes. Players will be obliged to conform to rules to be eligible for prizes.

Dimmitt also urges all players to do their best to show at their assigned starting times. "We want to set up good relationship with the courses, so we must keep our appointments," he emphasized.

The year's links program will be climaxed by the all-plant championship tournament in the fall. Grand prize will be professional-type golf clubs and golf bag.

To be eligible for the championship event, entrants must play in at least four of the monthly CRA tourneys.

This month's tourney will be held Jan. 20-21 over the new Cottonwood course. Green fees are $5 each. Starting times will begin at 10 a.m. both days, the earliest that play could be scheduled. However, first starting times at other tourneys will be between 7 and 9 a.m.

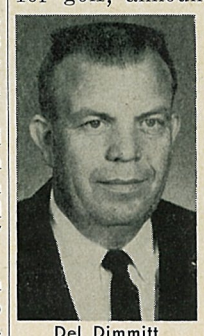
Deadline for signing will be Jan. 17. Starting times are available now through CRA Headquarters, ext. 1111 KM.

Assisting Dimmitt in tourney arrangements are B. H. Diffenbaugh and Bill Fowler.

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Fire Chief Now Golf Director

Fire Chief Del Dimmitt has been named CRA commissioner for golf, announced J. K. Field, chief of employe services. Dimmitt succeeds Ken Wulfemeyer who had headed the golf activity since 1958. Wulfemeyer has transferred to Pomona division.



Del Dimmitt

Dimmitt has been active in sports all his life — playing football and boxing for the Marine Corps Recruit Depot in San Diego while in the service. He has been an ardent golfer since 1955.

He also served as sports commissioner for the Convair Management Club for two years.

Dimmitt joined the Convair fire department in 1950 and was promoted to chief in 1961. He was named fire chief for the merged Convair and Astronautics divisions in late 1965.

Ice Hockey Movie To Be Shown Club

A color ice hockey film, with action illustrating offense, defense and basic game rules, will be shown at the CRA Hi-Fi and Music Club meeting at 7:30 p.m. Jan. 9 in CRA Clubhouse.

A San Diego Gulls player and Ron Oakes, Gulls games radio broadcaster, will answer questions. Guests are invited to inspect the club's studio and workshop facilities.

CRA Golf Tourney Schedule

(Following is CRA golf tournament schedule for the first six months in 1968. It is suggested that Convair golfers clip for future reference.)

Jan. 20-21 — Cottonwood Course.
Feb. 17-18 — Rancho Los Penasquitos Course.
March 9-10 — Singing Hills.
May 18-19 — Bonita.
June 15-16 — Carlton Oaks.

CRA Purchases Membership In Track, Field Association

CRA has purchased an initial $50 annual membership in the San Diego Track and Field Association, enabling all members of CRA Health Club to enter track and field events sponsored by the local association with the U.S. Amateur Athletic Union (AAU).

The association provides coaching assistance and beginning this month will have the Balboa Stadium track and field facilities available to members on a regular schedule.

CRA's membership also will enable employes to obtain individual memberships at 25 per cent discount.

Three Convair runners placed among the top 10 in their age classification in the Track and Field Association's first annual invitational seniors' 5,000-meter cross country run Nov. 25 in Balboa Park.

Carl Dragila, Dept. 591-0, was second in the 50 years and over. His time was 25.3 minutes. William Walker, Dept. 454-0, was ninth in the 40 to 49-year bracket with 21.43 minutes and Wayne Groesbeck, Dept. 551-3, was tenth in the 35-39 year age group with a time of 23.05.



TRACK MEMBERSHIP—George Schmiedel, CRA business manager, second from right, presents check for San Diego Track and Field Association membership. Accepting, from left, are Olympic 10,000-meter champ Billy Mills, Art Lewis of association's board, and 10,000-meter AAU district champ William Gookin.



DRAWINGS IN MINIATURE—Convair engineering drawing microfilm card is received by L. R. Willett of Dept. 988-3 from Leonie Boumans, Dept. 524-3 blueprint file clerk in Bldg. 26 at Kearny Mesa. Viewing microfilm in background are W. O. Bowman of Dept. 962-3, left, and N. W. Lenton of Dept. 144-1.

Convair's Microfilm System Expanded

Convair division's engineering microfilm system has been expanded with files being established in manufacturing areas for the first time.

The new files, equipped with viewer-printers, are in Bldg. 5, Col. K-13, and Bldg. 33, Col. D-6, at Kearny Mesa. A new file with a viewer-printer also was installed last month at the ABRES-1 site at Vandenberg AFB.

Use of microfilm for Convair and vendor engineering drawings, engineering change notices (ECNs), parts lists and other information has expanded rapidly since its first use for Atlas operational data in 1962.

The engineering data has been reduced to miniature size on more than 175,000 microfilm cards. A microfilm card requires only about 1/10 of the space for storage of a full-size copy of an original drawing.

Thomas A. Billings, chief of engineering practices, estimates the microfilm usage now saves the division $200,000 a year. Much of the saving results from engineering personnel using microfilm viewers instead of maintaining voluminous individual or departmental "hard copy" drawing files.

General engineering microfilm files with viewers and printers are maintained on the second floor of Bldg. 26, Col. E-15, and in Bldg. 4, Col. H-27, at Kearny Mesa. Vendor engineering drawings are in the Bldg. 4 file only.

Special files with viewers are available in Bldg. 26 for Dept. 961 at Col. H-1, Dept. 962 at Col. E-9, Dept. 967 at Col. G-12, and Dept. 988 at Col. F-18. Special files with viewer-printers are in Bldg. 33, Col. F-11, at Kearny Mesa; in Bldg. 51, 3-G, at Lindbergh Field; and at the Eastern Test Range.

Employes fill out a request form to order prints from the general files. Cards pulled from the special files are refiled immediately after use.

Dept. 519-0's microfilm center in Bldg. 4, Col. K-15, maintains a master file and a history file with all superseded engineering data and incorporated ECNs. Microfilm or prints of material in these files may be requested through any of the general file locations.

The microfilm center receives all released engineering documents, reproduces them on microfilm and distributes copies for the files. (Each of the special departmental files in Bldg. 26 receives only microfilm copies of drawings generated within that department.)

Supplementing the engineering microfilm system is a computerized parts and data record (PADR) system in which parts usage lists and other reports are produced on 16-mm film rolls. The PADR film is available at several locations in Bldgs. 4, 5, 26 and 33 at Kearny Mesa.

A reliability data center microfilm system (RDCMS), also on 16-mm roll film, contains reliability inspection reports, problem reports, functional test requirements, survey reports, action requests, failure analysis reports, controlled - components - program documents and launch vehicle history records. This is in Bldg. 33, Col. F-5.

The parts engineering information center, now located in Bldg. 4, Col. G-20, has available on microfilm off-the-shelf part control numbered and standard parts documents, inspection and action request records, failure analysis records, and Interagency Data Exchange Program (IDEP) files. Information can be requested by phone, ext. 2356 KM.

Convair's technical library has more than 200,000 government reports on microfilm, a microfilm system incorporating 58 to 70 pages of reports on each card, and has viewer and printer equipment.

Microfilm also is used for non-engineering applications at Convair. For example, computerized accounting and management reports are microfilmed directly by the Stromberg-Carlson 4020 computer-recorder for use with microfilm viewers.

Portable Tracking System in Use For Automatic Fusion Welding

Convair division manufacturing development engineers have created a new and highly versatile portable tracking system for use in automatic fusion welding on both straight and curved surfaces.

Sections of the flexible plastic-like geared track are made from a mixture of resins, heated and poured into a two-foot-long aluminum mold. Any length of track can be produced by joining sections together.

A special motor-driven carriage carries the automatic welding head as it moves along the track at 1/10-inch to 117 inches per minute.

The carriage also can guide a router for trimming and smoothing the edges of surfaces before they are welded.

C. E. Roye, assistant supervisor of manufacturing development, said the new flexible trackage can be used on any curved or circular surface larger than two feet in diameter.

The bottom of each track section is molded so that a rectangular air space is left at its center. Use of a standard vacuum pump creates a vacuum to hold the track securely to the surface adjacent to the area being welded.

Roye said the prototype system that has been used in tests at the Kearny Mesa plant has "proven" effectiveness of the concept.

"Sections of track can be molded at low cost, can be assembled and disassembled quickly, and can be used many times on surfaces with different configurations," he said.

"This system will be particularly advantageous for use on one-of-a-kind or short-run projects."

Dept. 491-0 manufacturing development engineers conducted a nationwide survey the first of last year to determine what types of portable tracking were being used for welding in industry.

They found most of the trackage in use is made from steel, was designed for a single application, and can not be adapted readily for other welding applications.

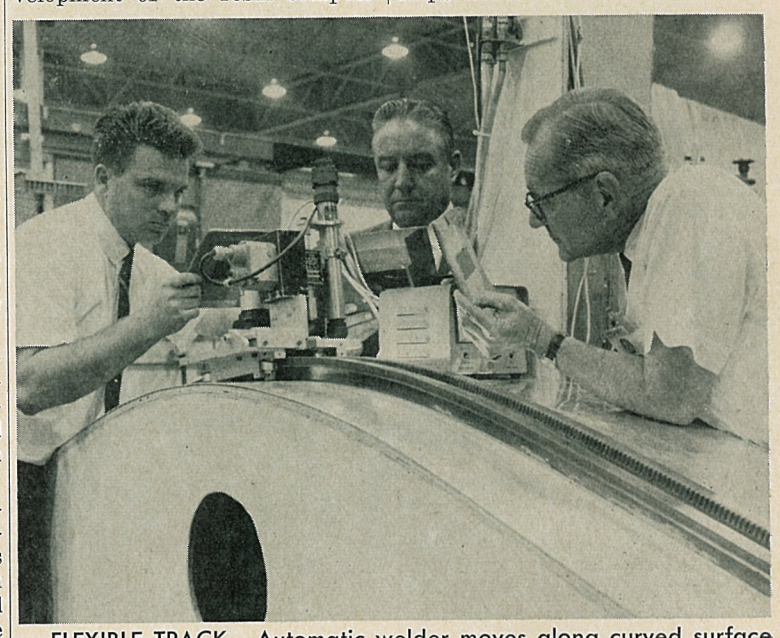
Roye established a list of desired criteria for a flexible tracking system and design of the prototype began in March.

Norman Frederick, a former Dept. 491-0 employe, designed the carriage and did preliminary studies on the trackage system and application for a patent was made by the division.

C. P. Rolla, a Dept. 491-0 manufacturing development engineer now on temporary duty at Canadair Ltd., completed development of the system and has been responsible for "proofing" tests as project engineer. Carl F. Stark of Dept. 400-1 assisted with development of the resin composition and molds for the trackage.

An automatic "seam tracker" is to be added to further increase the prototype's effectiveness.

Roye said the flexible trackage system for automatic welding has many potential uses ranging from small welding applications to repairs of large vessels such as ships hulls.



FLEXIBLE TRACK—Automatic welder moves along curved surface on flexible trackage in new system developed by Convair manufacturing development engineers. Checking weld through dark glass are, from left, Frank Bench, C. E. Roye, and R. G. Baumann.

Registration Open In Spanish Course

Second semester of the TV Spanish course taught by Jim Hardison of Convair is now open for registration.

The television course in beginning Spanish seen over Channel 8 on Saturday mornings had the widest participation of any television class held in San Diego. Over 300 registered students took part in the 7 a.m. course.

The Adult Education course will be held for 10 weeks. Students who completed the first semester will use the course as a refresher; newcomers will be able to learn fundamentals.

Cost, including textbook, is $2.

Register with Mrs. Pat Byrom, 835-12th Ave., SD, phone 233-0181, ext. 51.

Electronics Dept. Aids Needy Family

Material department of Electronics-San Diego operations played Santa Claus to a needy family with seven children, ages from 10 years up.

Electronics people donated $40 for a large turkey and all the trimmings for a bountiful Christmas dinner and collected several boxes of canned goods and clothing. Each member of the adopted family received a personal gift.

Five Receive Cash Xmas 'Gifts' For Cost Reducing Suggestions

Five Convair division employes received Employe Suggestion Award checks totaling more than $8,300 just prior to the Christmas holidays.

Marciel C. Hight, Dept. 842-0, received the highest award of $4,348.50 for suggesting master material catalog production, distribution and filing changes.

Previously, all pages being changed or added to the catalog were reproduced weekly and distributed for filing by personnel in 120 different locations. The weekly supplements have been discontinued and new catalogs will be issued quarterly. Inquiries on changes between publication dates will be handled by material cataloging personnel.

R. O. Nissen, Dept. 543-2, received $1,703.20 for suggesting discontinuance of use of a telemetry evaluation test set.

Elimination of validation-calibration and maintenance requirements for the test set during a one-year period will save the division 10 times the amount of the award.

B. H. Peyton, Dept. 958-6, received an initial $1,000 award check for a suggestion under which special silver-zinc batteries used on launch vehicles and for telemetry and range safety functions are being returned to the manufacturer for replacement of cells.

The batteries will be reworked to "as new" condition at a cost of about half the original $1,500 purchase price. One of the batteries "flies" on each launch vehicle but approximately five others used in pre-launch and launch operations can be salvaged and returned for rework.

Although the battery cells will be replaced, the stainless steel case, heater blanket, thermostats, radio frequency filter, pressurizing valve, pressure-relief valve and electrical connections will be reusable.

E. D. Heller, Convair manager of cost reduction and value control, said Peyton may receive an additional award payment after one year—with the amount based on number of batteries returned for rework.

W. S. Wright, Dept. 574-5, received a $776 award for proposing use of standardized instrumentation scale to reduce calculation time for Atlas and Centaur vehicles.

His suggestion will save an estimated 2,000 manhours during the next year.

R. R. Rote, Dept. 578-1, was awarded $477.80 for suggesting use of a smaller high-pressure storage tank for liquid nitrogen during running of Centaur oxidizer tank vent valve tests at Sycamore Site B.



SUGGESTION RECOGNITION—Grant L. Hansen, right, Convair vice president-launch vehicle programs, presents certificate and $1,000 first-payment check to B. H. Peyton, Dept. 958-6 senior reliability engineer, for Employe Suggestion to return expensive batteries to manufacturer for rework.

Performance of USNS Vanguard Draws Praise of Adm. Galantin

The following letter, signed by Adm. I. J. Galantin, has been received by Roger Lewis, president of General Dynamics:

"The Naval Material Command has been advised by National Aeronautics and Space Administration, Goddard Space Flight Center, that USNS Vanguard T-AGM-19 has performed all assigned functions in an excellent manner during the first Apollo mission requiring instrumentation ship support launched on November 9, 1967. General Dynamics Corporation, the builder of Vanguard, contributed in large measure to this highly successful milestone.

"I wish to extend my personal appreciation and congratulations for your contribution to the performance of this fine ship."

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

Why is Bldg. 33 at Kearny Mesa not provided with a suitable place for the second shift to eat? We have a lovely patio which is open on the side and I'm sure quite comfortable for the first shift, but the two gas heaters are either not turned on, or turned on too late to be effective. The temperature is often down to 47 degrees.

The patio area to which you refer is heated by a system which includes a timer. The timer starts the system at 6 a.m. and shuts it off at midnight. During this period the four heaters in the area are controlled by two thermostats. Apparently during the recent cold spell the thermostats were not set high enough. As a result of your letter, plant engineering will conduct inspections every two hours until they can determine the best settings to provide comfort during second shift.

★ ★ ★

Is it possible to arrange guided tours of Convair for groups such as a Boy Scout troop?

Regretfully, the answer is no.

There are literally hundreds of such groups and though we would like to show them our facilities, the task of escorting, briefing, scheduling, etc., would constitute a major problem and expense.

Visits are restricted to special occasions and special groups. For example, each year we host Science Fair winners and have been visited by various honor students, when sponsored by a school district. From sheer weight of numbers, however, such visits must be restricted to special occasions.

★ ★ ★

Do we have to pay income tax on retirement money received from Convair?

You must pay income tax on the amount of retirement that results from company contributions and on interest accrued on total retirement contributions.

★ ★ ★

My daughter is a semi-finalist in the National Merit Scholarship program. How does she apply for a Convair merit scholarship, and how does she apply for other scholarships available to children of Convair employes?

No formal application to Convair is required to qualify for a Merit Scholarship sponsored by General Dynamics. Applicants who list their parents as employed by General Dynamics are considered automatically.

Other scholarships available include: Convair Management Club (contact Mark Saunders, KM ext. 1492); and Convair-sponsored San Diego State College undergraduate scholarships (contact Faculty Scholarship Committee at San Diego State).

★ ★ ★

If a person is on military leave of absence, how soon after his discharge from the service must he return to work to retain his job and seniority?

The returning employe must apply for reinstatement within 90 days after his discharge from the military.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 2 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, January 17, 1968



RECOGNITION—Lt. Gen. J. W. O'Neill, right, commander of Air Force Space and Missile Systems Organization, presents Zero Defects Achievement Award to Jack L. Bowers, Convair general manager.

Air Force Achievement Award Recognizes Convair ZD Effort

An Air Force Zero Defects Achievement Award was presented by Lt. Gen. J. W. O'Neill, commander of the Air Force Space and Missile Systems Organization (SAMSO), in ceremonies attended by division supervisors Jan. 5 at Kearny Mesa.

The award, signed by Gen. James Ferguson, commander of the Air Force Systems Command, was accepted for the division by Jack L. Bowers, general manager. A citation accompanying the award was accepted in behalf of all division employes by A. L. Hoy, a shot peening operator in sheet metal Dept. 001 at Lindbergh Field.

Presentation of the award climaxed General O'Neill's first visit to Convair as SAMSO commander and followed a briefing on company products and programs.

Officials present for the briefing and award presentation included Brig. Gen. Arthur E. Exon, director of the Defense Contract Administration Services Region, Los Angeles; Brig. Gen. R. C. Duffy, Col. H. Z. Ekrem, Col. Joseph L. Hamilton, Col. Leo W. Sullivan, Col. D. L. Werbeck, Lt. Col. A. J. Poor and Capt. P. A. Belmont, all of SAMSO, and Mort Goldman of Aerospace Corp.

"The statistics of your Zero Defects accomplishments . . . are most impressive," General O'Neill said at the award ceremony.

"In my opinion, they are simply new and additional evidence of an even more impor-

(Continued on Page 4)

Atlas-Centaur Scores Surveyor 7 Success

Convair's Atlas-Centaur 15 sent Surveyor 7 toward the moon with unprecedented accuracy Jan. 7, giving the Atlas-Centaur launch vehicle a 100 per cent success record for the seven operational Surveyor missions.

Surveyor 7 made a perfect three-point landing Jan. 9 on the rugged lunar surface near the crater Tycho in the moon's southern hemisphere after its 66-hour flight from Complex 36-A at Cape Kennedy.

It is equipped with cameras which are returning hundreds of photographs, an alpha scattering device for chemical analysis of the lunar soil, and a small motor-driven shovel for digging trenches.

The AC-15 (Atlas SLV-3C No. 5903 and Centaur 12D) launched the final Surveyor toward a target in the "Apollo belt" near the moon's mid-point with such accuracy it would have landed within

(Continued on Page 2)

Mails Produce Quick Response To New 'Q and A'

Response to the newly established "Question and Answer" system was immediate.

Letters began to arrive the day after the program was announced (**GD/NEWS, Jan. 3**) and are continuing. As of last Wednesday (Jan. 10) approximately 50 had been received. All were thoughtful and meaningful and replies are being prepared.

Under the system announced by Jack L. Bowers, Convair general manager, employes are free to write questions or comments on any company-related subject and send them to "Q and A, Mail Zone 100-01" (a special Q and A mail zone) where identities are carefully protected, in fact known only to one individual. All questions are answered by mail to the employe's home, after which all record of the sender is destroyed.

A few of the early questions, along with answers, are published at the top of this page. As the program progresses, **GD/NEWS**

(Continued on Page 2)

Q and A Highlights

Send your questions or comments either by U.S. mail or Company mail. If U.S. mail, address them to "Q and A," Mail Zone 100-01, Convair, Box 1128, San Diego, 92112. If Company mail, address to "Q and A," Mail Zone 100-01.

* * *

Include name and home address. All questions will be answered by mail to the writer's home. In addition, those considered of general interest will be published in *GD/NEWS*, without divulging the writer's name. Unsigned letters, obviously, cannot be answered by mail.

* * *

Identity of writers will be absolutely protected and as soon as answers have been obtained, the original letter and all record of the writer's identity will be destroyed.

* * *

Print names and addresses to assure legibility.

Bowers Outlines Business Goals

Convair division's major business goals for 1968 include extension of the use of its current products and winning of a new prime military aircraft contract.

Division objectives for the year were announced and a report on 1967 accomplishments was delivered by Jack L. Bowers, general manager, Jan. 3 at supervisors meetings at Kearny Mesa and Lindbergh Field.

In the area of future programs, Bowers said there are three military aircraft "likely for development" for which Convair is a leading contender.

They are the proposed VSX carrier-based anti-submarine warfare aircraft, a CARA (combat aircrew rescue aircraft) for which Convair and Canadair Ltd. have submitted a proposal, and an A-X specialized close air support aircraft for which Convair has won and completed a preliminary design study.

Bowers cited as an example of product extension a potential major contract for upgrading Convair-built F-106 interceptors with new armanent and avionics systems. Modification of the F-106s, which Bowers described as "one of the best aircraft ever built," would update their effectiveness for use into the 1970s.

Another goal is increasing production sales by 10 per cent, the general manager said.

Increases in electronics manufacturing operations already are

(Continued on Page 4)

Convair Team Planning Design For New Plane

Convair division of General Dynamics will be one of five major aircraft manufacturers competing for a Contract Definition contract on the Navy's new carrier-based anti-submarine warfare system, designated the VSX.

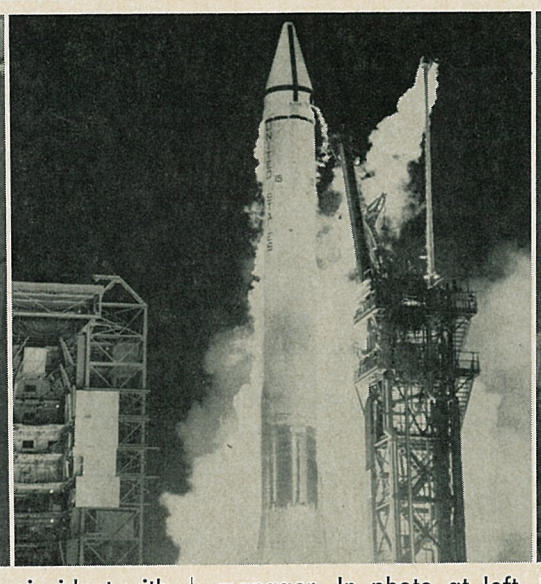
Request for Proposal for Contract Definition on the VSX was released by the Navy Air Systems Command, contracting agency, at the year's end, Dec. 29, 1967. Proposals must be submitted by mid-April of this year and award of the Contract Definition contract is expected by August of 1968. Awards will be made to two

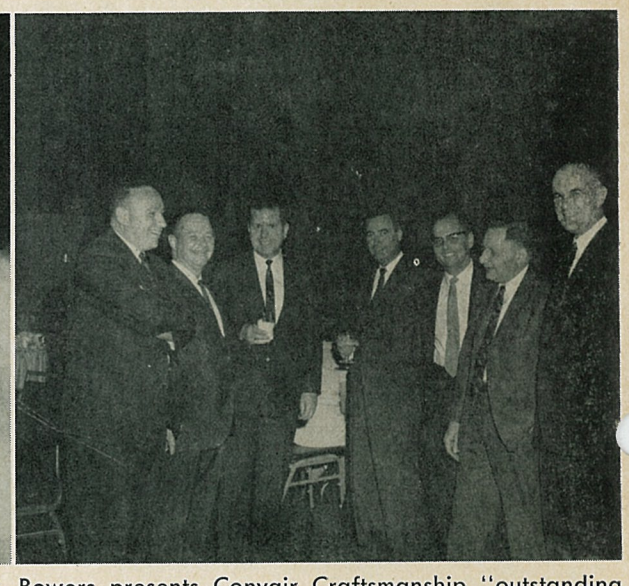
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TOP PERFORMANCE—L. I. Medlock, left, Convair reliability control director, receives 1967 cost reduction "maximum value performance" trophy for his department from Jack L. Bowers, Convair general manager. Reliability control personnel exceeded their cost reduction goal for the year by 79 per cent.







AT THE CAPE—Key Convair executives were at Cape Kennedy coincident with liftoff of Atlas-Centaur 15 (center). At right, during post-launch luncheon, are Ronald Rovenger, NASA resident representative; Col. Leo Sullivan, AF Space and Missile Systems Organization deputy for launch vehicles; Grant L. Hansen, Convair vice president-launch vehicle programs; L. I. Medlock, Convair director of reliability control; E. F. Baehr, NASA-Lewis Atlas program office manager; S. C. Himmel, NASA-Lewis assistant director launch vehicles; Jack L. Bowers, Convair general manager. In photo at left, Bowers presents Convair Craftsmanship "outstanding performance award" to Grant Hansen, honoring Project Surveyor Atlas-Centaur team. Observing are Don Williams, Convair chief of reliability control for ETR; Kenneth E. Newton, Convair ETR operations manager; Tom Chitty, Complex 13 site manager; Dan Sarokon, Complex 36 site manager; O. H. Reed, chief of ETR launch operations. Convair officials were at Cape to witness launch of Surveyor 7 which was boosted by Atlas-Centaur combination.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Jan. 1 and Jan. 15.

Thirty-year: Dept. 001, H. F. Bauman; 031, J. A. Stevens; 149, G. M. Graham.

Twenty-five-year: Dept. 027, R. E. Handley; 045, F. J. Longworth; 250, H. F. Jennings, J. J. Kocurek, L. J. Whisler; 400, W. D. Bertsch; 451, R. H. Richards; 509, L. E. Munson; 598, V. Hudson; 833, E. J. Kline.

Twenty-year: Dept. 001, Ruth H. Stockton; 031, E. F. Quinn; 059, J. P. Corrao; 130, Ellen V. Sellars; 143, J. B. Lowell; 149, R. L. Knapp; 452, E. B. Stevens; 780-3, Elma S. Mendenhall; 830, A. J. Braidic; 966, F. H. Skilton; 999, S. E. Cleghorn.

Fifteen-year: Dept. 015, L. W. Tracy; 027, R. P. Bonner; 131, Adalean L. Rodgers; 149, May D. Schell; 300, F. R. Luedtke; 401, H. B. Bishop, H. S. Hagen; 452, J. W. McMahon; 454, L. H. Lesh, P. P. Miller; 509, J. E. Leib; 519, H. Mattes; 572, R. D. Kesler; 597, R. D. Small; 843, Mary M. Madrid.

Ten-year: Dept. 015, H. T. German; 020, E. A. Marvel Jr.; 115, Vera I. Hodges; 144, R. G. Ferris; 149, Rita T. Forshey; 460, H. O. DeGrenier; 506, L. D. Jacks; 515, N. Sokach; 516, R. L. Gobrecht; 524, June L. Kier; 551, D. W. Suchecki; 587, J. R. Lloyd; 732, C. E. Larsen; 733, H. Staten Jr.; 763, H. W. Maier; 780, Orlena K. Chilcoat, Eleanor V. Cooper, C. A. Davisson, Gardenia C. Hogan; 950, R. Benzwi; 962, T. McDowell, F. M. Sagabiel; 988, V. C. Walker.

Awards

CONVAIR

Employe Suggestion awards approved for the week ending Dec. 22.

Dept. 001-0, J. H. Hammer, E. H. Hussong; 015-0, G. C. Archbold, A. W. Beckman, C. J. Popp; 016-0, M. G. Mercer; 019-0, G. G. Grantham; 027-0, M. R. Brown (two awards), E. L. Holtwick, F. H. Stine, E. E. Yturralde; 031-0, O. W. Bell; 059-5, T. Anderson; 130-8, J. H. Cooper (two awards); 142-1, A. G. Infeld; 143-1, W. D. McNeil; 143-3, C. A. Gravit; 144-1, F. W. Haywood; 144-2, E. McLeod; 149-5, F. H. Felchlin Jr., C. A. McKinney; 194-0, Mary A. Silva; 250-0, J. S. Poschman; 250-3, A. W. Matthews, B. A. Rusk, W. J. Wissinger; 401-5, D. C. Cooper, B. J. Jeffries, R. A. Taylor; 401-6, W. A. McGrew; 507-0, E. C. Beach Jr.; 572-1, Vernon C. Ryser; 574-3, R. W. Kabat; 717-0, J. Giammarinaro; 733-0, D. Capatanos; 761-0, L. Spurgeon; 840-0, M. F. Gonzales; 954-3, J. A. Vicari; 957-0, R. R. Reekers; 961-2, R. O. Morin; 979-0, J. B. Frier; 979-1, J. E. Coolidge, T. J. Skelley; 979-3, A. C. Davis, J. H. Seymour; 979-4, J. E. Robinson; 979-6, J. C. Littlefield; 985-3, Carol A. Dye.

Employe Suggestion awards approved for the week ending Jan. 5.

Dept. 002-0, Ramon Gamboa; 015-0, T. L. King, R. N. Moxley; 020-0, R. C. Beezley; 027-0, L. McLaughlin; 142-0, Darlo Clemens; 142-1, N. B. E. Forsberg (two awards), T. L. Lamoureux; 143-3, D. G. Clark; 143-6, R. R. Reekers (two awards); 146-6, G. M. Eckenboy; 149-4, R. Steele; 451-0, M. Serniuk; 733-0, D. J. Rogers; 732-0, R. L. Wolfe; 780-1, Marie D. Holley (two awards), T. W. Myers; 831-0, W. R. Gonzales, S. J. Silva; 840-2, E. V. Tieszen, L. H. Kramer; 842-0, Harry Anderson; 860-0, H. C. Leppart; 957-0, D. A. Falls; 979-3, H. S. Huber, P. A. Saluter.

Deaths

CONVAIR

WEAVER—Donald P., Dept. 049-0. Died Jan. 4. Survived by wife, Dorothy N.; three sons, Donald Jr., John, and Gregory.

Papers Presented

CONVAIR

MUNSON—L. E., Dept. 598-0. "Booster Technology." AIAA/Missile Systems Meeting, Monterey, Calif., Dec. 4-6.

NEYNABER—Roy H., Dept. 596-0. "Atomic Collision Studies Using Merging Beams."

NILSON—M. C., Dept. 581-6. "Potential Orbital Facilities for Soft X-Ray and Long Wave Radio Astronomy." American Astronomical Society Meeting, Philadelphia, Pa., Dec. 5-7.

RUARK—A. E., Dept. 170-2. "Configuration Accountability and Configuration Management of Outside Sources." American Management Association's Configuration Management Seminar, Los Angeles, Calif., Dec. 1.

Invention Disclosures

CONVAIR

BRADY—M. C., Dept. 578-4. Piston-Type Sinusoidal Pressure Generator.

HAGER—R. N. Jr., Dept. 578-5. Gas Leak Detector.

HUNTS—B. D., Dept. 558-5. Battery Cell Voltage Detector.

MAWHINNEY—R. F., R. W. WOODREY, R. C. FERGUSON, Dept. 115-0. Air Burst Munition System.

SMITH—C. R., Dept. 587-1, and G. D. LINDENEAU, Dept. 579-1. Load Relief Fastener.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7. Monday, Jan. 22, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 14 auditorium. Tuesday, Jan. 23, 8 a.m.; Tuesday, Jan. 30, 4:30 p.m.

AF Plant 19: ext. 491 LF, Bldg. 3, 1st mezz., Col. B-14 conference room. Thursday, Feb. 8, 8 a.m.

CITY COLLEGE COURSES

Registration open for spring semester courses to be conducted at Convair. Register at educational services offices at Lindbergh Field or Kearny Mesa until Jan. 25. For information call David Chigos or Dick Forrest, ext. 1931 KM.

Kearny Mesa, Bldg. 17, 4:30-7:30 p.m. —Introduction to Supervision, Wednesdays; Advanced Industrial Economics for Supervisors, Tuesdays; Human Relations B, Wednesdays.

Lindbergh Field Bldg. 14, 4 to 7 p.m. —Human Relations A, Mondays or Tuesdays. Register with Wayne Turner, ext. 491 LF.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF STUDY—A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Retirements

CONVAIR

FARMER—Emmett E., Dept. 759. Seniority date July 11, 1950, retired Dec. 29, 1967.

FREDERICK—Leonard, Dept. 420-8. Seniority date June 26, 1941, retired Dec. 29, 1967.

HAZLE—William H., Dept. 250-2. Seniority date April 26, 1950, retired Dec. 29, 1967.

KELLAR—Bernice H., Dept. 113-0. Seniority date Nov. 20, 1952, retired Nov. 12, 1967.

LEEDOM—Corwin W., Dept. 833-3. Seniority date Dec. 15, 1941, retired Dec. 29, 1967.

LINDBLADE—Joseph E., Dept. 130-1. Seniority date Dec. 14, 1951, retired Dec. 29, 1967.

NELSON—Philip N., Dept. 15-0. Seniority date Dec. 5, 1947, retired Dec. 29, 1967.

NIELSEN—James W., Dept. 551-2. Seniority date April 2, 1956, retired Dec. 15, 1967.

RASMUSSEN—Howard E., Dept. 149-2. Seniority April 29, 1950, retired Dec. 29, 1967.

TISDALE—Walter V., Dept. 401-5. Seniority date Nov. 18, 1935, retired Dec. 22, 1967.

WATEROUS—William L., Dept. 816-0. Seniority date June 6, 1957, retired Oct. 31, 1967.

WHISLER—Louis J., Dept. 420-9. Seniority date April 11, 1950, retired Dec. 29, 1967.

Rider-Driver

CONVAIR

RIDE WANTED — Linda Vista Road near Morena Blvd. to Kearny Mesa, 7:30 a.m. to 4:15 p.m. shift. Phone Dan Ognibene, ext. 610 KM or (home) 298-4089.

SHARE RIDE—Car pool from Escondido to Kearny Mesa, 8 a.m. to 4:45 p.m. shift. Phone Lois Woline, ext. 2328 KM or (home) 745-8158.

RIDE WANTED—From E. Mountain View Dr. & Adams Ave. to Lindbergh Field, 7:30 a.m. to 4:00 p.m. shift. Call Nora March, ext. 573 or home phone 281-6858.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N. Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Convair Team Planning Design For New Plane

(Continued from Page 1)

companies who will then compete for development and production.

The VSX is a follow-on to the S-2E Tracker and should be in service in the 1970s as a carrier-based airborne anti-submarine warfare (AWS) system. It will carry a large payload of sophisticated avionics including digital data processing equipment.

A Convair team of highly-qualified technical personnel, headed by Earl W. Boteler as program director, has been directing its efforts to study of the Navy's requirements and to preliminary design concepts of the new aircraft over the last two years in preparation for the beginning of bid competition.



E. W. Boteler

In order to meet the challenge the program presents, Convair has drawn on the anti-submarine warfare knowledge and skill of the entire General Dynamics Corporation, specifically Electric Boat and Pomona divisions and Stromberg-Carlson.

According to Boteler, Convair has been able to assemble from among its own employes a group with extensive carrier experience from both the operational and industrial design aspects.

Working with Convair as part of the ASW avionic team is General Electric Co. in the central processing and non-acoustic sensors subsystems, Sanders Associates in the acoustic subsystem, and TRW Systems Group in the navigation subsystem. Each of these companies has established offices at Convair's Lindbergh Field plant, where the VSX project is headquartered.

Mails Bring Response To 'Q and A' Initiation

(Continued from Page 1)

will carry "Q and A" as a regular feature, highlighting those which appear of general interest. Of necessity, because of the limited time to obtain answers, questions appearing in this issue are typical of those that could be answered quickly. A substantial number of the questions received so far will require time to obtain information for replies.

As a general rule, all questions will be answered by mail to the senders' homes in two weeks or less. Where research requires more time, the sender will be notified.

Births

CONVAIR

ROHMER — Twin daughters, Diane Elizabeth, 5 lbs., and Donna Agnes, 6 lbs., 5 oz., born Dec. 15 to Mr. and Mrs. Richard Rohmer, Dept. 763-0.

Atlas-Centaur Scores Surveyor 7 Success

(Continued from Page 1)

22.4 nautical miles of the target.

A pre-planned midcourse alteration of the spacecraft's trajectory shifted the touchdown point by 626 nautical miles for its landing near Tycho, an area of key scientific interest. Landing was just 1½ miles from the aiming point.

The change in the landing area had been authorized because previous Surveyor spacecraft had completed all requirements for validation of four possible Apollo astronaut landing areas. Officials said use of the mid-course maneuver to change the trajectory was less expensive than launch vehicle trajectory retargeting.

E. E. Barringer, AC-15 project engineer, said the launch was "the most accurate ever" and "as smooth as any we've had" with no unplanned holds in the launch countdown.

Daniel Sarokon was launch conductor with Gene Hart, Don Merritt, Jim Sylvester and John Johnson as assistants.

The launch was the first for an Atlas SLV-3C booster from Complex 36A and the fourth Atlas-Centaur launch with parking-orbit ascent and two burns of the Centaur liquid hydrogen engines.

The Atlas SLV-3C booster and sustainer engines powered the first 4.14 minutes of flight, followed by a 5.52-minute "first burn" of the Centaur, a 22.45-minute orbital coast at 90 nautical miles altitude and a 1.9-minute Centaur "second burn." The spacecraft was separated 35.2 minutes after liftoff.

Convair officials at the Cape for the launch included Jack L. Bowers, general manager; Grant L. Hansen, vice president-launch vehicle programs; L. I. Medlock, Convair director of reliability control; Andrew Kalitinsky, launch vehicle programs engineering director; Deane Davis, Centaur program manager; Jack Cannady, manager of finance, scheduling and administration for launch vehicle programs; and Robert Foushee, chief of Centaur systems engineering.

NASA and AF officials included Bruce T. Lundin, associate director for development at NASA's Lewis Research Center; S. C. Himmel, assistant director for launch vehicles, E. R. Jonash, Centaur project office manager, and E. F. Baehr, Atlas project office manager, all from NASA Lewis; Col. Leo W. Sullivan, Air Force Space and Missile Systems Organization deputy for launch vehicles, and Ronald Rovenger, NASA-Lewis resident representative at Kearny Mesa.

Six hundred persons including Convair launch and support personnel from the Eastern Test Range, NASA and Air Force officials, General Dynamics field office representatives and associate contractors and wives attended a post-launch luncheon.

Bowers presented a special Convair Craftsmanship "outstanding performance" award which Hansen accepted on behalf of the Project Surveyor Atlas-Centaur team.

"The outstanding performance of Atlas and Centaur in the Surveyor program is a tribute to the entire government-industry team that developed, managed, built and launched these remarkably reliable vehicles," the award plaque stated.

"The team includes Air Force personnel, National Aeronautics and Space Administration representatives and employes of the Convair division of General Dynamics.

"For their part in the project and for demonstrating their craftsmanship in a demanding and critically important national program, each phase of which took place in full view of millions of citizens, it is with great personal satisfaction that I present this 'Convair Craftsmanship' award to our members of the team. Congratulations to each of you for your individual contributions," the plaque, signed by Bowers, stated.

Convair launch vehicle programs personnel at Jet Propulsion Laboratory (JPL) in Pasadena for landing of the Surveyor and first photo return were Barringer, Foushee, M. R. Barlow, R. S. Wentink, R. H. Thomas and Robert Benzwi.

Dr. Silverstein Congratulates Convair on Surveyor Success

Dr. Abe Silverstein, director of NASA's Lewis Research Center, addressed the following telegram to Jack L. Bowers, Convair general manager, and Grant L. Hansen, vice president - launch vehicle programs, following the Surveyor 7 launch:

"On the occasion of the successful completion of the last Surveyor launch, I should like to extend my sincere appreciation and congratulations to you and all those in Convair who have participated in the Centaur vehicle program.

Your efforts have contributed significantly to the development of a versatile, high energy rocket stage and through it, to the advancement of our knowledge of the moon.

"The Surveyor program is but the first of many programs of investigation of space that Centaur will be called upon to support. I look forward to our continued association in this most successful and rewarding program."

Research With Untried Alloy For Space Use Progressing

Forming methods which will play an important part in successful use of a new, and so far untried, alloy under development for future spacecraft and re-entry vehicles are being evolved at Convair under a company-funded material research program.

Extensive study carried on during the last year in the division's materials and processes department is providing solutions which will enable thoria dispersed nickel chromium alloy (TDNiC) to fulfill its destiny as a "superperformer" at extremely high temperatures.

The material, a nickel chromium alloy strengthened with thoria particles, can withstand temperatures up to 2,300 F. over relatively long periods of time without coating or loss of mechanical properties.

However, until the Convair research, little was known about the new material's reaction to forming strains which all metal materials must undergo during production processes.

"We found that TDNiC is adversely affected by tensile forming," said S. R. Carpenter, senior research engineer heading the research program.

"Forming strains reduce its compressive strength by 40 per cent from its original condition —showing that parts made from the alloy would fail at a low load without special heat treatment."

An extended series of tests, concentrated on replacing the alloy's strength, followed. Results from these, released the end of the year, showed that the material can be restored to its original strength after forming by heat treatment at 2,000 F.

Investigations, requiring more than 500 tests, were conducted for rivet dimpling, spot welding, bending, bead forms, heat treatment, strain effects, and stretch wrap forming. Heat shields and beaded panels were produced to simulate structural applications in manned re-entry vehicles.

Forming strains were applied at both room temperature and cryogenic temperature, minus 320 F.

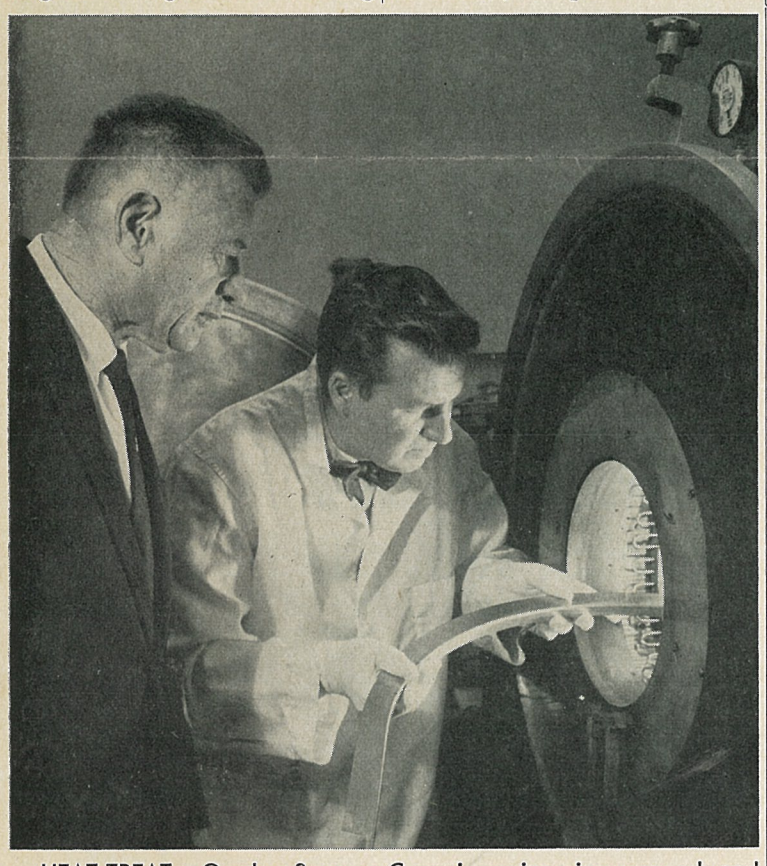
"Forming at minus 320 degrees is of particular interest," Carpenter said, "because TDNiC, unlike most other materials, has increased ductility — as much as 40 per cent more — at cryogenic temperatures. This improvement permits increased formability of parts not possible at room temperatures."

Possibilities for wide use of thoria dispersed alloys are far reaching when processes are developed for its practical application, according to M. D. Weisinger, chief of process development, who stressed the importance of the Convair research.

"Results of this particular material study already have added immeasurably to the state of the art," Weisinger said.

TDNiC is seen as a material of the future for use in the temperature range of 1,800 to 2,300 F. which will bridge the gap between the superalloys and the refractory alloys.

"Development of this alloy, and research into methods suitable for practical application, is interesting government agencies as they look ahead for materials suitable for the space vehicles of the future," Carpenter concluded.



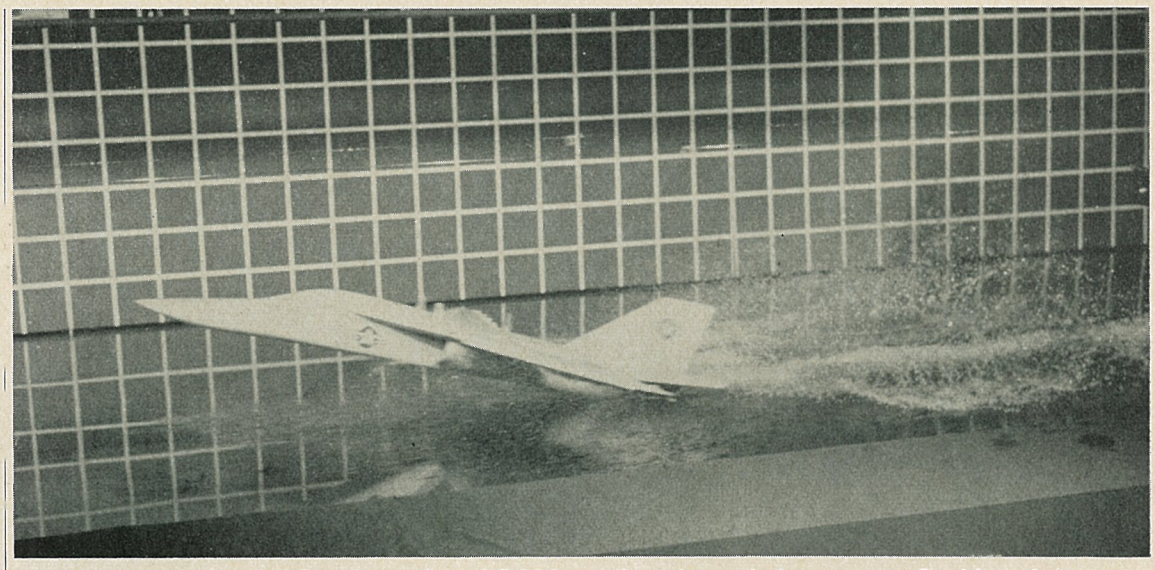
HEAT TREAT—Gordon Sawyer, Convair engineering research and development technician, places angle of TDNiC in vacuum furnace for heat treatment at 2,000 F. to improve strength after forming. S. R. Carpenter, senior research engineer heading Convair research on the new material, is at left. (Glow is from flash bulb.)

Roger Lewis Honored As Ex-Varsity Athlete

Roger Lewis, General Dynamics president, was among 12 New York corporate executives honored by the National Collegiate Athletic Association last week in New York City as former collegiate varsity athletes.

Lewis, Stanford, '34, received the NCAA's commemorative plaque, as did Hulbert S. Aldrich, vice chairman, Chemical Bank of New York Trust Co., Yale, '30; Rex L. Allison, senior vice president, Allied Stores, Kentucky, '31; George Champion, chairman of the board of Chase Manhattan Bank, Dartmouth, '26; Lawrence F. Fiske, executive vice president and treasurer, Moore and McCormack Lines, Colgate, '34; Harry D. Glenn, group vice president, Uniroyal, Inc., Westminster (Pa.), '41; Fred M. Kirby, II, chief executive officer, Alleghany Corp., Lafayette, '42; James A. Linen, president, Time Inc., Williams, '34; William F. May, chief executive officer, American Can Co., Rochester, '37; Ralph T. McElvenny, president, American Natural Gas Co., Stanford, '28; J. Henry Smith, president, Equitable Life Assurance Society of the United States, Delaware, '30; and Charles C. Tillinghast, president, Trans World Airlines, Brown, '32.

Lewis earned three letters in soccer during his Stanford undergraduate years and was a prominent rugby player.



SOFT LANDING—1/15-scale model of F-111 touches down during tests at Davidson Laboratory to develop a crash-landing procedure for aircraft. Traveling in free flight at speeds up to 60 feet a second, model was used to determine proper air speed, glide path and attitude for safe water landing.

Water Landing Technique For F-111 Developed

A ditching procedure for the bi-service F-111 to be used as an alternate means of escape in case of emergency over water has been developed at Davidson Laboratory of Stevens Institute of Technology in New Jersey.

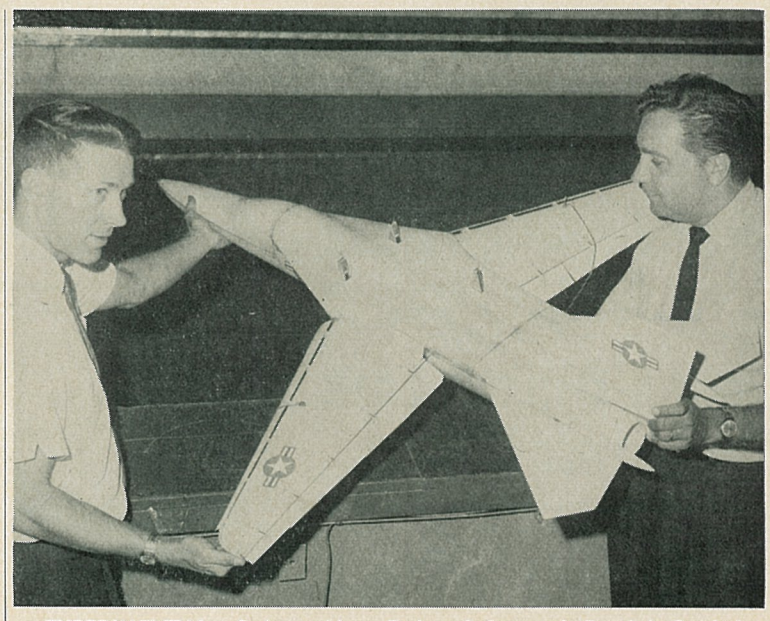
The plane's ability to vary its wing sweep in flight enables it to fly at much lower landing speeds than current fighter aircraft.

Davidson Laboratory was requested by the Air Force to determine if the low landing speed and fuselage design would allow a seriously damaged aircraft to be successfully ditched.

Primary escape for the two-man crew is the plane's module, which can be ejected throughout the F-111's flight envelope. Success of the module was demonstrated last year during an in-flight ejection from F-111A No. 15.

Tests at Davidson began last March. Using a 1/15-scale model of the F-111, engineers and technicians investigated effects of the plane's approach to a water landing at various speeds, glide paths and attitudes, then recommended the approach that would best insure the crew's safety.

The fiber glass model was carried along an overhead track in the 313-foot Tank No. 3 at Davidson at a top speed of 60 feet a second. The model was released at various speeds in free flight so engineers could study its characteristics when it struck the water and during run-out on the water. Each test was recorded by a battery of high-speed motion picture cameras.



EXPERIMENTAL—Robert Van Dyke, left, and Daniel Savitsky, both of Davidson Laboratory, display F-111 model used in establishing emergency ditching procedure for the plane.

You Can Become Regular Bond Buyer For 50 Cents a Week

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

WILLIAM F. RICE (1956) from Convair division to senior field service representative, Pomona division; **HAROLD M. LEE** (1967) from Convair to electronics engineer, Stromberg-Carlson Data Products; **TYRUS R. KING** (1940) from Convair to Pomona as foreman; **LEROY W. BROWN** (1965) from Convair to flight analysis engineer, Pomona; **WALTER R. MANDEL** (1958) from Convair to Electronics, San Diego as senior engineer; **WILLIAM Y. McCASLIN** (1963) from Convair to missile flight test engineer, Pomona; **GEORGE O. PERKINS** (1956) from Convair to Pomona as accounting coordinator; **JAMES BONE** (1960) from Convair to Pomona as senior test engineer; **BRYANT E. JUSTICE** (1950) from Corporate Headquarters, New York to manager of inspection, Pomona; **CLINTON J. VIOLETTE** (1957) from Convair to Pomona as senior field service representative; **FREDERICK P. WEAVER** (1955) from Convair to production analyst, Pomona.

It's Circumstantial Evidence—But . . .

Don McCarty, Fort Worth division supervisor, vigorously denies that he "got in the dog house" during the holidays. But here are the facts.

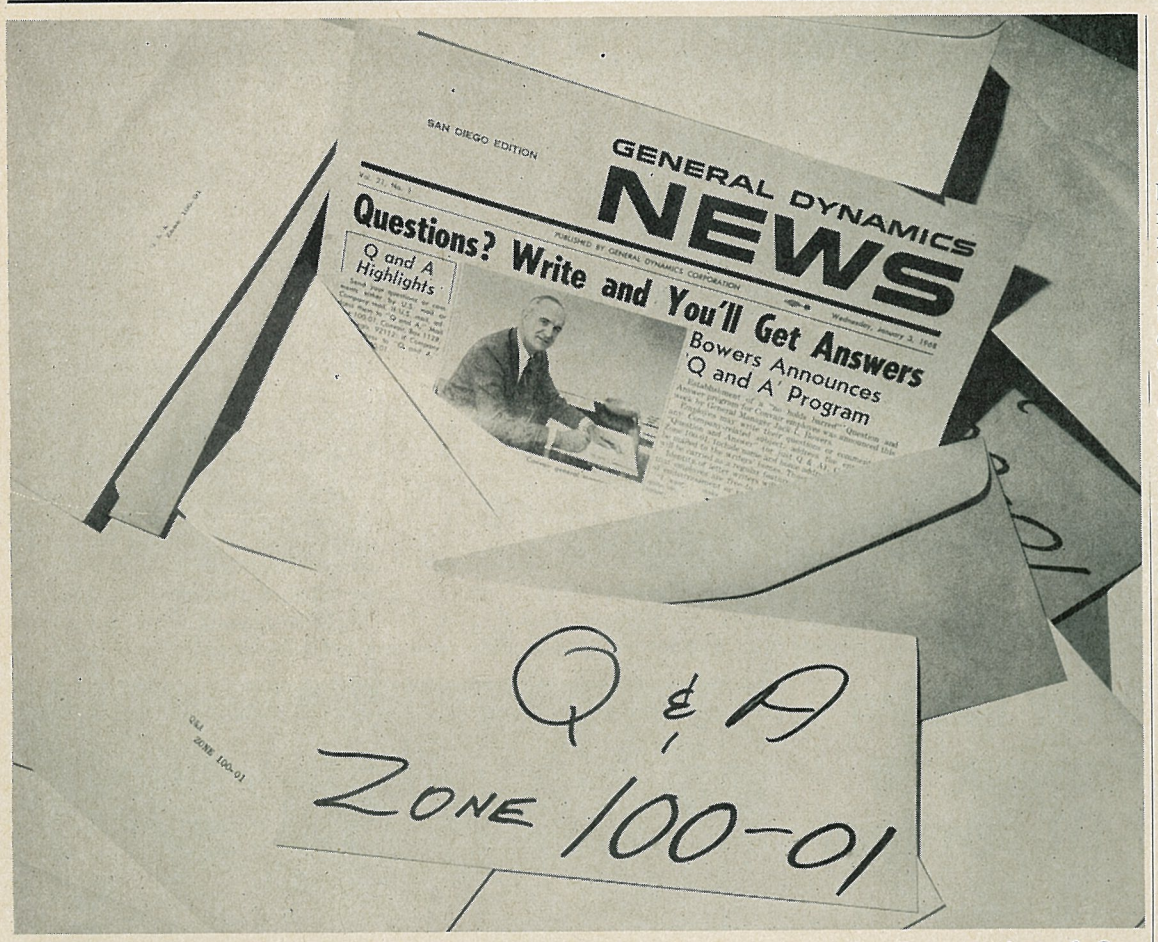
McCarty lost his badge before Christmas. After four days, he gave it up for lost.

Later, however, someone found the badge—in the family dog's house.

How did McCarty's badge get in the dog house? "I must have dropped it while walking across the yard," he says unconvincingly.



IT'S CALIFORNIA!—Snow blanketed Edwards AFB and surrounding Sierras recently, much to the delight of Mrs. Anne Roby, secretary for V. L. Allwardt, Fort Worth division base manager.



GOOD RESPONSE—Questioners started writing almost immediately after inauguration of Convair's new "Question and Answer" system. Special mail zone (100-01) has been assigned.

Outstanding Safety Record At Vandenberg Recognized

Convair employes at Vandenberg AFB recently completed four years and more than five million manhours without a lost-time accident — a new record for Convair and believed to be the best record ever established by a contractor organization at Vandenberg.

M. V. Wisdom, Convair director of industrial relations, has presented a trophy in recognition of the outstanding achievement to D. L. Fagan, operations manager at Vandenberg, for the employes.

Wisdom said the Vandenberg employes' "fantastic record" is evidence of "real awareness, enthusiasm and constant attention to safety on the part of every supervisor and employe."

Credit for the record has been attributed, in part, to an intensive motivational program utilizing symbols to stimulate safety awareness and recall of safety policies and philosophy.

The program began with each employe seeing a film, "Knowing's Not Enough," that portrayed four "imps" — impunity, impatience, impulsiveness and improvising — as being the cause of most accidents.

Symbols of the "imps" have been used extensively at Vandenberg as safety reminders. Even employes' payroll checks, periodically, have had "imps" and other cartoon characters and safety slogans stapled to them.

'Fun Night' Slated By Mgt. Club Jan. 31

Convair Management Club's first meeting of the new year will be a fun night Wednesday, Jan. 31, with free beer, spaghetti dinner, and a Dixieland band.

The meeting, sponsored by launch vehicle programs, will be held in the Balboa Park Club. Grant Hansen, Convair vice president—launch vehicle programs, will emcee.

Social hour with free beer and soft drinks will start at 5:30 p.m. Dinner will be at 6:30 followed by a short business meeting. The South Market Street Jazz Band will play Dixieland music from 8 to 9.

Tickets at $2.25 each are on sale by Management Club Boosters at all plant locations.



SAFETY ACHIEVEMENT—Trophy signifying four years work without lost-time accident by Convair employes at Vandenberg AFB is presented by M. V. Wisdom, left, Convair director of industrial relations, to D. L. Fagan, manager of Convair operations at Vandenberg. Employes at Vandenberg have completed record five million manhours without lost-time injury.

Bowers Outlines Goals For Convair Division

(Continued from Page 1)

planned—partially in support of Fort Worth and Pomona divisions F-111 and Standard missile programs. Other major current subcontracts include those from Lockheed for C-5 empennage production, Hughes Tool Co. for helicopter detailed parts, and Kaiser Aluminum Chemical Corp. for airfield landing mats.

Other '68 goals for current and future programs include winning new Atlas or Centaur missions; continued development and increasing five-year-plan sales projections for "systems" programs such as navigational buoys, range measurement and other electronic systems and vehicles by 50 per cent; and development of one proprietory program.

The division will continue its work on advanced ICBM concepts and on winning key technology contracts related to major space programs for the future.

Bowers noted that all Atlas SLV-3 space boosters and Atlas-Centaur launches last year were successful and that 17 of 18 refurbished Atlas D, E and F missile launches were successes.

Quality, as measured by the division's Craftsmanship program, was improved 20 per cent during the year and led to the division being selected for the Air Force Zero Defects Achievement Award. Bowers said incidents of major damage also were "brought well under control" during the year.

This year's quality objectives also call for 100 per cent success in all Atlas and Centaur launch and flight operations and for quality improvement by an additional 20 per cent and qualification for the Air Force's highest award, the Craftsmanship award.

Bowers reported "terrific success" in cost reduction with the 1967 goal being achieved by the third quarter and total savings of more than $27 million, exceeding the year's goal by more than $5 million.

The division's cost reduction "maximum value performance" trophy for 1967 was awarded to the reliability control department for exceeding its goal by 79 per cent. Runners-up were launch vehicle programs at 68 per cent over goal and material department at 66 per cent over goal.

Efforts to improve the division's safety record fell short last year, however, and this year's goal is for 10 per cent improvement and attainment of a safety record that is "best in the aerospace industry."

Need for increased and continuous attention to safety "by every employe" has been requested.

"There has to be a 100 per cent attack on the problem," Bowers said.

Convair's integrated management system, utilizing the best procedures from several previously used management techniques to cut paperwork while streamlining cost, schedule and performance reporting, will be used on all new programs.

Progress is to be maintained in the Management Upgrade program. An employes "Question and Answer" program for improved communication was established this month, a series of training courses for supervisors is planned, and a management personnel selection and development program is being carried out.

Bowers said Convair made a "good overall showing" on profits for 1967 and that problems encountered on a few programs were resolved. The division's economic goals for this year include exceeding budgeted profit on all programs and saving $1 million through a new "conservation" program to be implemented.

The conservation program will be patterned after one used successfully at Fort Worth division. "We will take a look at all areas where we have expenses, including telephone and travel costs, and identify those areas where costs can be reduced," Bowers said. Specifics for the program will be announced as they are developed.

Bowers said working toward division objectives is "a good way to do business" and emphasized the need for each employe to understand them and contribute toward their achievement.

"Each of us will have an opportunity to assist," he said.

SAWE Chapter Plans Dinner Gathering

Members of the San Diego chapter of the Society of Aeronautical Weight Engineers (SAWE) will meet Jan. 26 in the Islandia Hotel with social hour at 6 p.m. and dinner at 7.

D. O. Nevinger of Ryan Aeronautical Co. will present a technical film and discussion following a brief business meeting at 8 p.m. Reservations can be made by calling Jeweline Richardson, ext. 2297 KM, by noon Jan. 24.

WIVES' LUNCHEON AT KOZAK RESTAURANT

Convair Wives are holding their regular monthly luncheon today (Jan. 17) at Kozak Restaurant, 401 W. Main St., El Cajon.

Test Analyst Earns $1,013

R. W. Kabat, a test data analyst in Convair's space vehicle test evaluation Dept. 574-3, received a $1,013 Employe Suggestion award check early this month for a suggestion that will save the division more than $10,000 this year.

The launch vehicle engineering test data with which Kabat works is stored on more than 7,700 magnetic tapes—with some that were being maintained indefinitely in storage dating back to early Atlas tests in 1956.

Kabat suggested that "logs" on the Atlas and Centaur test tapes be reviewed and as many as possible of the tapes be cleared of data and reused to cut down on the number and cost of new tapes being purchased.

As a result about 20 per cent of the tapes, or 18 million of the 90 million feet of tape stored on the rolls, have been made available for reuse.

The stored tapes contained data on engineering tests at the Eastern Test Range and Vandenberg AFB as well as at the Kearny Mesa plant and test sites in the San Diego area.



IDEA PAYOFF—R. W. Kabat, left, Convair test data analyst, receives certificate and Employe Suggestion award check for more than $1,000 from W. E. L. Boyce, director of research and information services.

Salvage Schedule

Next sales day for General Dynamics employes at the Convair salvage yard will be Saturday, Feb. 3, 8 a.m. until noon. The salvage yard is located at Lindbergh Field plant, adjacent to Gate 5, and is reached by the Washington St. extension. Admittance is by ID card.

Air Force Achievement Award Recognizes Convair ZD Effort

(Continued from Page 1)

tant Convair achievement on which I want very much to congratulate all of you and all the other employes who are not here. That achievement is the 'habit of excellence.'"

General O'Neill recalled Convair's role in keeping "the ballistic missile program alive" in the late 1940s and early 1950s, in producing the Atlas and the first man-rated space booster and in continuing "this impressive record" on launch systems for the Gemini target vehicle, development of the Atlas SLV-3 and boosters for Advanced Ballistic Re-Entry Systems (ABRES) and other programs.

"These are some of the achievements which in my view have given Convair its present honored place in the aerospace 'hall of fame,'" he said. "They are also a prologue to your present Atlas reliability of 100 per cent and to the present launch record of 37 consecutive successful space launches.

"I remind all of you of this catalog of achievements because I think it is proof of the creative craftsmanship, the individual pride in your products and the infinite patience and skill which have always characterized the performance of this Company and which are the essence of the Zero Defects program," he said.

"Long before the Department of Defense put the label 'Zero Defects' on its efforts to bring about improvements, you here at Convair were already seasoned practitioners of that art.

"It is an impressive record of excellence. I hope and I am certain that it will continue in the future and I am delighted that the Air Force and the Department of Defense have recognized these achievements with the Zero Defects award."

Bowers expressed appreciation for the award, which he said represents a direct channeling of Convair's interests with those of the Air Force. He said the division has set an objective of bettering its performance by another 20 per cent this year and is working toward the higher-level Air Force Craftsmanship award.

Today Is Deadline For Ice Tickets

Today, Jan. 17, is the last day to buy discount tickets for the Convair Night performance of Holiday on Ice, sponsored by Convair Management Club.

All employes, their families, and friends may take advantage of the reduced price for the Jan. 21 performance of the extravaganza in the San Diego Sports Arena. Performance time is 6 p.m.

Regular adult ticket prices are discounted $1 and tickets for children 14 and under are half the regular price.

Tickets may be purchased from club Boosters or CRA outlets.



FANCY FISHING—Convair's Larry Roberts is caught in act of netting some of his exotic new variety of tropical fish, Roberts Feather Mollies. All white, with feathered pectoral fins, fish are valued at minimum of $100 apiece. —Photo by Chappels' of Escondido.

Pink-Eye Albino

New Breed of Tropical Fish Developed, Valued at $100 Each

A Convair design draftsman who promised to take care of his son's fish tanks while the boy was in the service has developed an entirely new variety.

"Roberts Feather Mollie," a pink-eye albino with a lacy, feather-effect pectoral fin, is the result of several years of breeding and hundreds of generations of fish, said Larry Roberts of Dept. 511-4 at Convair.

The unusual white fish has been acclaimed by leading authorities in the field, including Dr. H. R. Axelrod, well-known ichthyologist, as a true new variety. Specimens are being displayed in the Escondido area where Roberts lives and next year will be exhibited in the tropical fish building at Sea World.

"When Larry Jr. joined the Navy and left his tropical fish in my care I became interested in breeding albinos," Roberts said. "I started with guppies and swordtails, then went on to try my luck with mollies."

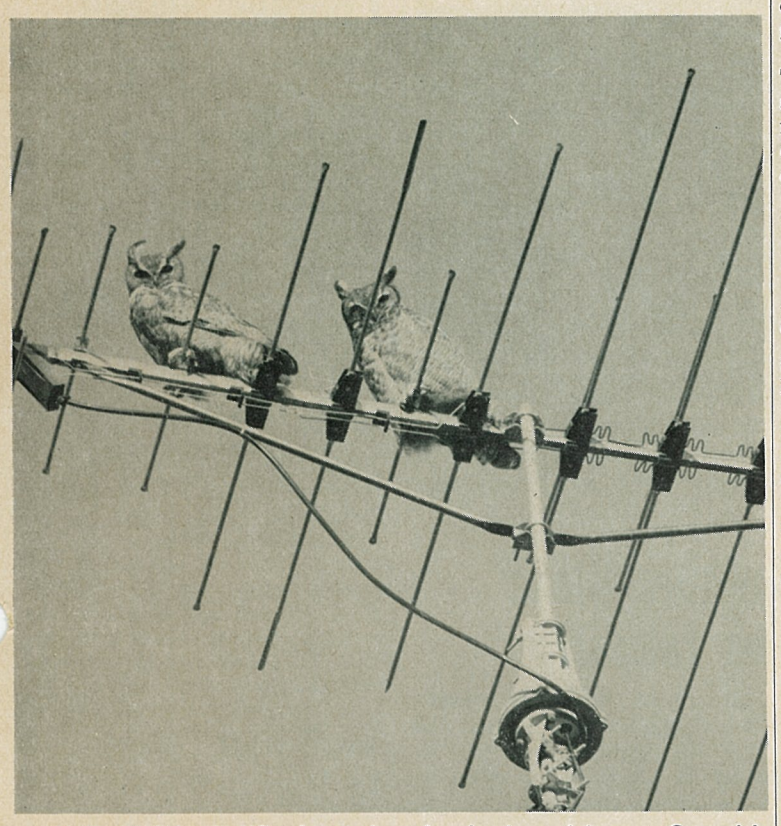
He started with a half a dozen albino sports six years ago. From those, he now has bred a true strain which will be placed on the market in another two or three years.

He has been offered $100 apiece for the white feathered fish, but says that he values his pair of main breeders at $5,000, simply because he doesn't want to sell them at all!

Course Offered In Mountaineering

A basic course in mountaineering will start next week under auspices of the San Diego Chapter of the Sierra Club in cooperation with San Diego Park and Recreation Dept.

A series of seven weekly lectures and field trips will begin Tuesday, Jan. 23 in the Conference Bldg., Balboa Park. Hours are 7:30-9:30 p.m. Registration may be made between 6 and 7:30 p.m. preceding the first three lectures. Fee is $2 a person.



OWL VIEW—Pacific horned owls check activity at Convair's Kearny Mesa plant from atop 50-foot TV antenna on Bldg. 4.

Horned Owls Ignore Security Bars, Survey Convair From TV Perch

Recent visitors to Convair's Kearny Mesa plant included a couple of Pacific horned owls who slyly observed division employes at work from atop one of two special 50-foot TV antennas on Bldg. 4.

The antenna that served as the owls' vantage point is used by Convair in evaluating equipment for the division-designed and installed Complex 39 operational TV system at Merritt Island, Fla.

An amateur ornithologist at Kearny Mesa said Pacific horned owls, that grow to a height of 24 inches, are found infrequently in San Diego county and rarely are seen in daylight hours.

Photographer Walt Gault, who used a 15-inch lens to take the picture, found the visitors aloof but not opposed to posing. He said they didn't seem to give a "hoot."

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is Jan. 23. Call ext. 1071 LF or ext. 3322 KM.)

★ ★ ★

ADVENTURERS—Slide showing of trip to Seri Land tonight (Jan. 17), 7:30 p.m., CRA auditorium. Back pack trip to Anza-Borrego State Park Jan. 20-21. Call Dick Bowen, 278-9846.

ARCHERY—Club shoot Jan. 21. Call Al Stone, ext. 586 LF.

BADMINTON—Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park. Call Al Van Norman, ext. 1864 KM.

BALLROOM DANCING—Intermediate class starts Jan. 22, 7:30-9 p.m., CRA Clubhouse. Call Royce Riggan, ext 1018 LF.

BICYCLE CLUB—25-mile Pt. Loma tour Jan. 27. Leave south end of Shelter Island at 9 a.m. For information call Dick Gilbert, ext. 1267 LF, or home 223-8848.

CAMERA CLUB—Meeting Jan. 21, 8 p.m., Photo Arts Bldg., Balboa Park.

CERAMICS—Meetings Tuesdays and Thursdays, 7-10 p.m., CRA Clubhouse.

CHESS—Play Wednesdays, 7:30 p.m., CRA Clubhouse.

CHORUS—Rehearsals Tuesdays, 7:30 p.m., CRA Clubhouse. Call Jim Pate, ext. 3034 KM; Jo Anne Bray, ext. 1091 LF; or Walt Minor, ext. 1111 KM after 4:30 p.m.

COINEERS—Meeting tonight (Jan. 17), 7:30 p.m., Convair cafeteria, Lindbergh Field.

FENCING—Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

GOLF—CRA tourney Jan. 20-21 at new Cottonwood course. Today (Jan. 17) last day for entries. Call ext. 1111 KM.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Mondays through Fridays; 10 a.m. to 5 p.m., Saturdays. Call ext. 1111 KM.

ICE SKATING—GD family skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

JUNIOR SCIENCE—Meeting Jan. 19, 7:30 p.m., CRA Clubhouse.

PISTOL CLUB—Club shoot Jan. 28, 9:15 a.m., SD Police Pistol Range.

RADIO CLUB—Meeting Jan. 18, 7:30 p.m., CRA Clubhouse.

RIFLE CLUB—Senior shoot Jan. 24, 7:30 p.m.; junior shoot Jan. 20, 1 p.m., Gillespie Field Range.

SQUARE DANCING—Dynamic Eights dance every Thursday, 7-10 p.m., CRA Clubhouse.

STAMP CLUB—Meeting Jan. 25, 7 p.m., CRA Clubhouse.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m., CRA Clubhouse.

TRAILERS—Road Runners meet Jan. 25, 7:30 p.m., Gillespie Field Clubhouse.

WIVES—Luncheon today (Jan. 17), Kozak Restaurant, El Cajon.

Rail Club Moving To New Quarters

CRA's Model Railroad Club is moving into new quarters in the railroad club's building in Missile Park.

Design of the HO-scale model railroad is under way and actual construction is scheduled to begin Saturday, Jan. 20.

The club meets at 7:15 p.m. Tuesdays and Saturday mornings at the new location. For information, phone CRA Clubhouse, ext. 1111 KM, or Dave Fyffe, commissioner, at ext. 2101 KM.

12-Week Ballroom Dance Class Slated

A 12-week ballroom dance class for intermediates starts Jan. 22, 7:30 p.m. to 9 at CRA Clubhouse auditorium. Cost is $18 per couple.

Intermediates are classed as those who have completed beginner courses, or who have a degree of proficiency in the basic steps.

Bob McGlade, professional instructor, will teach the class. Call Royce Riggan, ext. 1018 LF, for details.

Rockhounds Plan One-Day Field Trip

CRA Rockhounds will take a one-day field trip this Saturday, Jan. 20, to Pinto Wash on Hwy. 2 between Tecate and Mexicali in Baja California.

Departure will be promptly at 8 a.m. from the border gate at Tecate. The trip is recommended for beginning rock hunters. Petrified wood and ryolite are found in the area.

Today Deadline For Next Golf Tourney

Today, Jan. 17, is the deadline for entering this month's CRA golf tourney set for the coming weekend, Jan. 20-21, at Cottonwood.

Starting times are still available by calling CRA Headquarters, ext. 1111, Kearny Mesa.

Commissioner Del Dimmitt reminds all players to keep their assigned times.

Gyros and Underbrush Teams Lead Shop Basketball Play

At close of first half of CRA shop basketball league play the Gyros led the slow-break league with a 4 won, one loss record and Underbrush was out in front in fast-break play, 4-0.

However, Underbrush still had one game to play. Their game with the Cosmos Bums, cancelled during the holidays, will be rescheduled at the close of the season. Flight Control was right on Underbrush boys' heels with four wins and one loss. Other fast-break teams which have completed their first-round schedule are Road Runners and Travelers. Cosmos Bums have two games to make up and Hot Shots, one.

Second half of the season began last week for both plant leagues. Play is held Wednesday and Thursday evenings in Balboa Park's Muni Gym. Spectators are welcome with no admission charge.

Final first half standings are:

SLOW-BREAK LEAGUE

Team	W	L
Gyros	4	1
Black Rabbits	3	2
Stromberg-Carlson	3	2
Bullet Biters	2	3
Hughes Choppers	2	3
Stromberg-Carlson	1	4

FAST-BREAK LEAGUE

Team	W	L
Underbrush	4	0
Flight Control	4	1
Road Runners	3	2
Cosmos Bums	1	2
Travelers	1	4
Hot Shots	0	4

GARDENERS ELECT CAROLYN BUMAN

Three of the most active members of the Convair Garden Club were chosen to head the CRA group for the new club term at the Jan. 3 meeting.

Carolyn Buman of Dept. 966-9 will serve as the first woman president of the club in its almost 20 years of existence. Mrs. Buman is a past president of the San Diego County Rose Society and a consistent exhibitor in county flower shows.

O. J. Williams of Dept. 832-3 is new vice president and Audrey Sletnar, Dept. 931-0, secretary.

Installation will be at the Feb. 7 meeting.

Al O'Blennes, accredited rose judge and past president of the San Diego County Rose Society, conducted a demonstration in rose pruning at the January meeting in the Floral Association Bldg., Balboa Park.

Both Snow, Water Skiers Are Active

Convair skaters are enjoying the sport at both extremes—on bay waters and mountain slopes.

Water skiers haven't missed a weekend this year, CRA Commissioner Joe Harris reports. They ski each Saturday and Sunday morning off Crown Point in Mission Bay.

Snow skiing is scheduled now wherever the snow is best. Twenty-five of the Convair Ski Club traveled to Mammoth Mt. for the first weekend in January and a trip to Sun Valley, Idaho is planned for the first week in March. A second week will be spent at Jackson Hole for those who can take the vacation time.

Basketball Entry Drops First Game

Convair's hoop entry in the San Diego city basketball league dropped its first league game to San Diego Gas & Electric last week.

The SDG&E team downed Convair's team, 53 to 45, in league openers Jan. 8.

League play in the muni league will continue each Monday night for a total of seven games.

Color Slides of Remote Indians Will Be Shown to Adventurers

A color slide showing the little-known Seri Indian tribe of Sonora, Mexico, will be shown to members and guests of CRA Adventurers at tonight's (Jan. 17) meeting in CRA Clubhouse, Kearny Mesa, at 7:30 p.m.

The slides were taken by club members during a recent trip to Seri Land and the Isla del Tiburon on the east side of the Gulf of California.

Wood carvings, baskets, necklaces, and other artifacts of the nomadic tribe will be on display.

Plans also will be discussed on this weekend's (Jan. 20-21) back pack trip into the desert. The rigorous overnight trip will take hikers along the north boundary of Anza-Borrego State Park, between Coyote Canyon and Rock Horse Canyon.

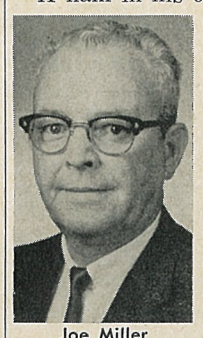
Each person will be required to carry at least a gallon of water, as none is available. Thermal clothing or coverings are advised, Commissioner Dick Bowen said, as temperatures drop very low at night. Bowen and Larry Lesh will lead the pack trip as coordinators.

All interested are urged to attend tonight's meeting for particulars or call Bowen at his home phone, 278-9846.

Joe Miller Commissioner Of Ham Club

Joe Miller, a long-time Convair and former Astronautics division employe, has been appointed CRA commissioner of the Convair Radio Club, J. K. Field, chief of employe services, announced last week.

Miller takes over commissioner duties from Fred Schulz, now on loan to Lockheed-California Co.



Joe Miller

A ham in his own right, Miller operates under the call letters WB6PWM. He has been an active member of the Radio Club the last four years and has served as vice president two consecutive years. He is resigning his club office upon assuming the position of commissioner.

Miller has nearly 28 years with the company, first joining Consolidated Aircraft in 1936 after the move to San Diego. He is a proof planner in Dept. 420-1, based at the Kearny Mesa plant.

Besides his interest in amateur radio operating, Miller was active in the ARA Pistol and Rifle Clubs and is a member of the CRA Fishing Club.

Mrs. Sally Ishihara Wins Bridge Series

Mrs. Sally Ishihara won the CRA Bridge Club's November-December winter series bridge trophy.

Jan. 5 monthly master point game winners were Mr. and Mrs. Burton Grindstaff, north-south, and Mrs. Vivian Thomas and Mrs. Eve Leasure, east-west.

Participants in Jan. 19 play will draw names for partners for the evening. Winners will receive prizes in addition to American Contract Bridge League fractional points to be issued.

BARGAIN "CAMELOT" TICKETS ON SALE

Reduced-price tickets for the 8 p.m. Jan. 28 showing of "Camelot" at Cinerama Theatre are on sale at $2 (a 50-cent saving) through Jan. 24 at all employe services outlets. Richard Harris and Vanessa Redgrave star.

Dynamics Forms Resources Group

Operating units of General Dynamics dealing primarily with basic materials are being constituted, for Corporate administrative purposes, into a Resources Group, Roger Lewis, president, announced recently.

The combination will be headed by Frank Nugent as group vice president and will be based in Chicago, Ill.

Each of the individual operating units will retain its own operating automony.

The Resources Group will include the Material Service division, under Patrick H. Hoy as president; and Marblehead Lime Co., a General Dynamics subsidiary, under James O'Brien as president. The new grouping also includes Freeman Coal Mining Corp. and The United Electric Coal Companies, also subsidiaries.

Nugent had previously headed up the two coal operations. He will be succeeded as president of the coal companies by Nicholas T. Camicia, formerly executive vice president.



GROUP VP—Frank Nugent, as group vice president, heads new General Dynamics "Resources Group."

The Resources Group will also contain smaller operating units affiliated with the Material Service division including Darlington Brick, Producers Supply Co., and the Garden City Sand and Fuel Corp.

This action represents the third grouping by the Corporation within the past year to streamline general administrative procedures of compatible operating units. Those previously formed are the Marine Systems Group and the Electronics and Industrial Group, each under a Corporate group vice president.

The overall business and facilities of the Resources Group have been expanding steadily in recent years. Sales for the group over the past two years have climbed some 10 per cent, and approximately $39 million have been expended or authorized in new facilities.

The latter category includes:

An additional kiln for production of Materialite concrete block at Ottawa, Illinois;

Ninety-nine new large Redi-Mix concrete trucks;

A new kiln for production of high quality lime, which went on-stream at River Rouge, Mich., last year;

Another high quality lime kiln at Buffington, Ill., which is scheduled for completion this spring;

New rotary-bucket excavating machinery for strip mining at Du Quoin, Ill., with a capacity of 3,000 yards per hour;

Start of a new 790-foot-deep mine at Waltonville, Ill., to produce more than 3,000,000 tons of metallurgical grade coal annually.



COMMENDATION—Paul Ferrara, left, Convair engineering administration and services director, presents certificates of commendation for major cost reduction proposals. Accepting awards, from left, are R. T. Tuttobene for H. G. Brittain, R. R. Lanflisi for M. G. D'Annunzio, H. B. Day and D. R. Pierce.

C-5 Tail Undergoes Rigorous Tests to Assure Stiffness

A full-size C-5A tail is undergoing a series of stiffness tests in Convair's structures test laboratory to see that the tail structure, as designed, meets Lockheed-Georgia Co.'s stiffness criteria.

Testing is extending throughout this month under overall responsibility of Ed Schiff, test lab group engineer. W. D. Bowers is test engineer.

Already completed are stiffness tests on the pivot joint and the vertical stabilizer. Testing of the horizontal stabilizer will be completed by the end of January.

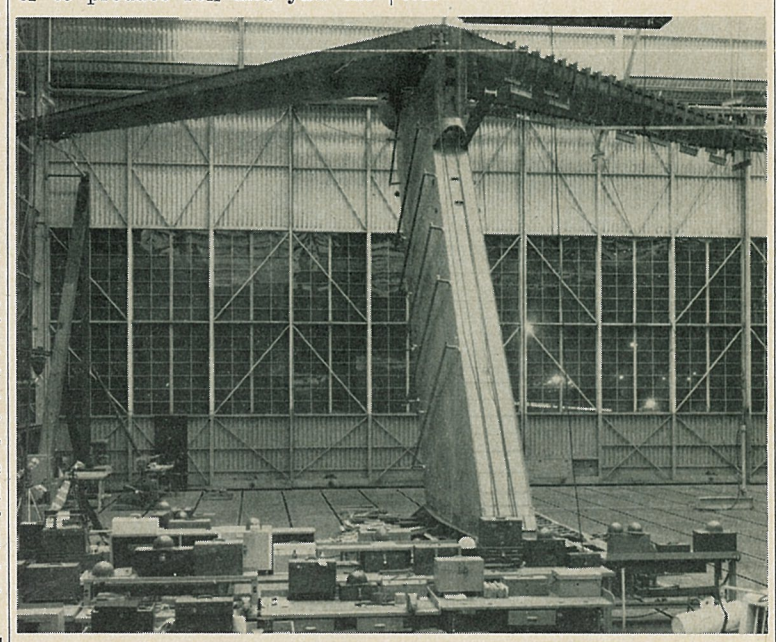
During the series of tests on the pivot joint, the overall stiffness of the joint was evaluated for three different pivot bearing shaft configurations.

Couple loads were applied to the tips of the horizontal stabilizer to produce roll and yaw moments through the pivot joint.

During stiffness testing on the vertical stabilizer, couple loads also were applied at tips of the horizontal stabilizer, but in combination with side loads at the top of the vertical stabilizer to produce bending and torsional movements.

Additional testing on the tail is being considered. The follow-on test program, if implemented, would include calibration of strain gauges installed in the empennage. Results would be used in support of the coming Lockheed-Georgia flight test program.

The empennage used in the stiffness testing program is the third tail unit produced at Convair for the new Air Force cargo jet under a subcontract from Lockheed-Georgia, prime contractor.



LOADED—C-5A tail is erected in Convair structures test lab at Harbor Drive facility for series of stiffness tests to confirm that structure meets design criteria. Testing program will be completed this month.

EFFORTS COMMENDED IN COST REDUCTION

Seventeen members of Convair's research and engineering organization recently received commendation certificates for fourth quarter cost reduction proposals that will save the division an estimated $317,079.

The savings brought total for the year for research and engineering to $1,942,340—more than $300,000 over the year's goal of $1,625,000.

Personnel credited with highest fourth quarter cost reduction proposals included H. G. Brittain, $69,449 for liquid hydrogen conservation and other savings at Sycamore Site B; H. B. Day, $50,784 for graphic reproduction savings; M. G. D'Annunzio, $25,765 for computerized calculation of pressure and friction forces, and D. R. Pierce, $21,479 for graphic reproduction savings.

Other certificate recipients were W. W. Fox, W. B. Evans, R. C. Ring, R. D. Horwitz, R. R. Lanflisi, D. J. Holman, W. G. Michael, W. G. Walker, D. R. Roberts, S. R. Milis, R. L. Benson, E. F. Godenschwager and G. G. Green.

Convair-Built F-106s Make Non-Stop Flight to Alaska

Four Convair-built F-106 supersonic fighter interceptors flew non-stop from Kansas City, Mo., to Alaska early this month to mark the first time aerial refueling was used in deploying F-106s outside continental United States.

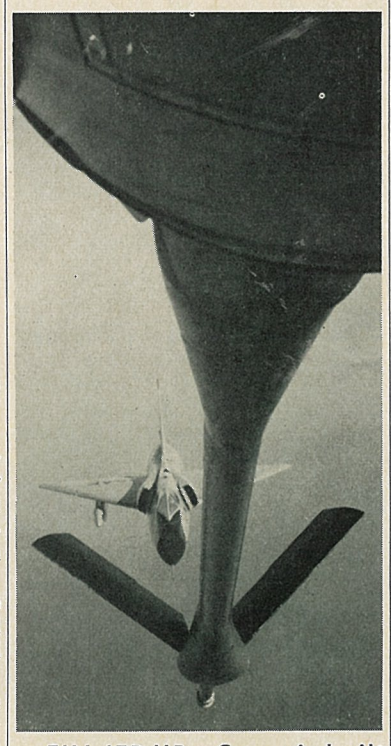
The 2,800-mile training mission on Jan. 4 from Richards-Gebaur AFB, Mo., to Elmendorf AFB, Alaska, was made in six hours and 25 minutes.

The flight was a joint ADC/SAC exercise with Strategic Air Command KC-135 tanker planes providing aerial refuelings. Planes were refueled at approximately 31,000-feet altitude.

Flight leader was Lt. Col. Ellis E. Stanley, commander of the 71st FIS at Richards-Gebaur. The squadron is a unit of the 328th Fighter Wing assigned to the Tenth Air Force.

Convair developed the design for installation of the F-106 aerial refueling system and fabricated the modification units at the San Diego production plant under a contract from San Antonio Air Materiel Area, Kelly AFB, Texas.

Installation was done by the Air Force at Sacramento Air Materiel Area and San Antonio Air Materiel Area bases. Convair service engineers supported the F-106 modification in the field and Convair engineers, Lou Fowler and Hugh Frisbie, were assigned to proofing sites to provide engineering support during installation.



FILL 'ER UP—Convair-built F-106 supersonic fighter interceptor maneuvers under refueling boom of KC-135 tanker during January non-stop flight from Richards-Gebaur AFB, Mo., to Elmendorf AFB, Alaska. —AF photo.

Four In-Plant Courses Slated

Registration is being accepted now for four Convair in-plant courses, carrying college credit, which are part of the series leading to a certificate of proficiency in supervision.

Courses to be taught at Kearny Mesa plant in educational services, Bldg. 17, are Introduction to Supervision on Wednesdays; Advanced Industrial Economics for Supervisors on Tuesdays; and Human Relations B on Wednesdays.

At Lindbergh Field, Human Relations A will be taught in Bldg. 14 both Mondays and Tuesdays.

Hours for courses at Kearny Mesa are 4:30 to 7:30 p.m. Courses at Lindbergh Field will be held from 4 to 7 p.m.

Registration will be accepted through Jan. 25 at educational services offices. To enter Kearny Mesa classes, call David Chigos or Dick Forrest at ext. 1931 KM. Sign for Lindbergh Field classes with Wayne Turner, ext. 491 LF.

Atlas-Centaur Film Wins National Award

The Convair-produced motion picture "One One Zero Zero" has won an "Indy" award in the 1967 Industrial Film Festival.

The film recounted the Atlas-Centaur 10 launch and Surveyor 1's soft landing on the moon and was produced by the Convair motion pictures and television section for NASA.

The film was selected for the top award in the research and development division from a field of about 100 entries.

Bob Montague, chief of motion pictures and television for Convair, was present for the awards ceremony last month in New York City.

The 1967 "Indy" was the fifth received by Convair in consecutive years. The annual competition is sponsored by Industrial Photography magazine.

Convair Firemen Smother Blaze As Plane Crashes on Takeoff

Convair's fire department was commended for fast action at the crash of a small commercial airplane during takeoff at Lindbergh Field Jan. 8.

Maurice A. McDonald, manager of Lindbergh Field, praised Convair firemen for being on the scene immediately to effect the rescue of the lone survivor. Three others, the pilot and two passengers, apparently died at impact of the plane.

Convair Fire Chief Del Dimmitt said that the division's fire trucks were at the crash site and putting out the fire with foam less than a minute after impact. In fact, the trucks were on their way across the field to the blazing plane before the alert was given.

Convair's fire department at the Lindbergh Field plant has responsibility for covering the landing field and maintains constant vigilance. On duty at the time and first ones sighting the accident were Firemen Ray Burgad, Tom Champlin, Richard Olpin, and James Johnston.

Income Tax Forms Going Into Mails

W-2 forms for Convair division employes' use in preparation of federal income tax returns have been mailed.

Hourly employes with unused sick leave funds on deposit with Security First National Bank will receive a report reflecting the year-end balance with Feb. 2 payroll checks.

Statements on the General Dynamics Savings and Stock Investment Plan also are scheduled for in-plant distribution to members prior to March 15.

Small Boat Course To Start—It's Free

A course in small boat handling will start next week, Jan. 23, in the CRA Clubhouse at Kearny Mesa.

Lee Schenke of Convair will conduct the 14-week course on Tuesdays from 5 to 7 p.m. Registration may be made at the first session in Room C.

Material will cover all aspects of small boat handling, including equipment required by law, rules of the road, safety afloat, aids to navigation, the compass, and work on course plotting.

There is no charge. Textbooks and materials will be available at the class.

For information call Schenke at ext. 2889, Kearny Mesa, or at home, 469-9043, evenings.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 3 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, January 31, 1968

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

★ ★ ★

Q—Will Convair ever again build its own commercial aircraft?

A—The decisions in this matter are yet to be made. Division objectives for 1968, however, do call for winning a prime military aircraft contract.

★ ★ ★

Q—Is there any possibility of going back to the former method of getting paid at the end of the year for unused sick leave pay for hourly people rather than accumulating it to the next year?

A—Not at this time. The present labor agreements contain provisions for a sick leave accumulation plan which will remain in effect until 1970. At the expiration of these agreements this subject will again be open for discussion. There are certain advantages to employes under the present plan. If you want additional information on this subject, call labor relations, Kearny Mesa ext. 1249.

★ ★ ★

Q—If we really want our value engineers to save money, why limit them to their own local areas?

A—If we allowed plantwide freedom to everyone on the value engineering staff, we would have confusion and inefficiency. However, any value engineer aware of a cost reduction opportunity in an area beyond his assignment should feel obligated to call it to the attention of his supervisor, or of the value control coordinator of the area concerned.

★ ★ ★

Q—If a person is laid off and rehired within a week, and has seniority restored, does he become eligible for three weeks annual vacation ten years from his original hire date plus one week, or ten years from his rehire date?

A—He would be eligible ten years and one week from his original hire date.

★ ★ ★

Q—I don't understand why we (Convair) are experiencing a dearth of work. Is there a basic marketing problem?

A—Convair, as well as our competitors, face the same marketing problem. Our major customer—the U. S. Government—has been subject to a complex of economic and political pressures and there have been few big program-starts in our fields in the past two years. However, the facts are that it takes five to ten years from concept to production for a major program. While maintaining its present very substantial base, Convair is aiming at major programs in the 1970s. (See 1968 objectives.)

★ ★ ★

Q—Are we keeping up with the latest methods in handling Employe Suggestions? I believe our own has been mired in "systems and red tape."

A—Two years ago we reviewed the Employe Suggestion system and revised it. As a result, the steps between receiving an ES and

(Continued on Page 5)

Tons Destroyed In Classified Papers Purge

Six thousand unessential "secret" and 218,000 "confidential" documents were removed from Convair division files recently in a purge preceding implementation of new Department of Defense (DOD) security regulations.

An additional 8,000 "confidential" documents were downgraded to unclassified status in accordance with security procedures.

Stan Sharp, manager of industrial security, said the purge will save the division an estimated $406,000 a year in handling and storage costs alone. Industry-wide surveys show that handling and storage costs $7 per year for each "secret" and $2 per year for each "confidential" document.

"Considerable cost avoidance also will result from elimination of a substantial number of classified material file cabinets," Sharp said. "This reduction will result in our having to purchase fewer new locks and will cut manpower requirements for patrols required by the new DOD regulations."

Inventory and approval for retention of all DOD classified documents was completed this month in the second phase of Convair's classified materials purge program.

Changeable-combination locks, slightly larger and heavier than combination locks previously used, are being issued for each file cabinet to be used for storage of classified material.

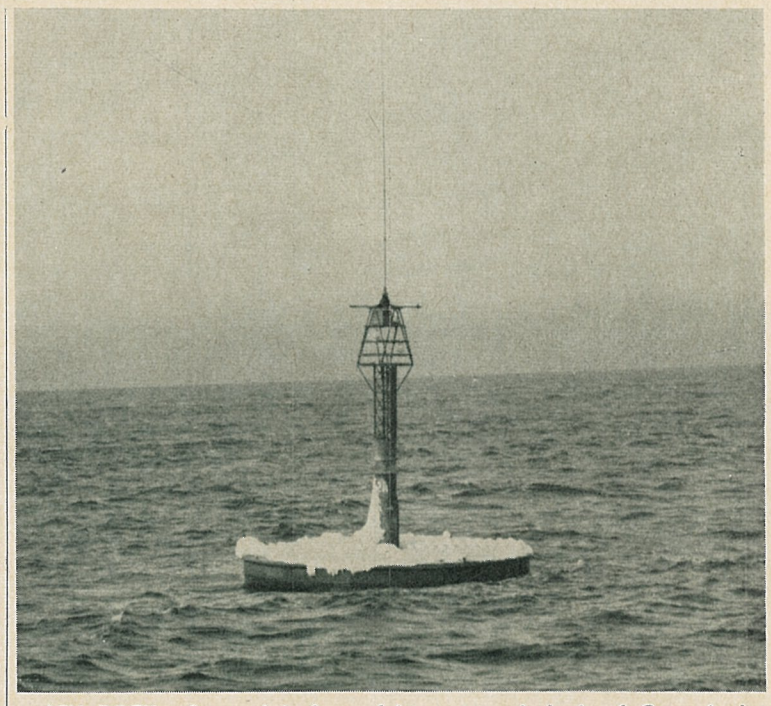
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'Burn Barrels' End For Confidential

Beginning Monday, Feb. 5, locked "burn barrels" will no longer be used at Convair plants for disposal of "confidential" documents in accordance with new DOD regulations.

"Confidential" material for destruction in the future will be returned to control station custodians and stored in locked cabinets until picked up by a destruct messenger and taken to the salvage yard for pulverizing.

Disposition of General Dynamics' "private data" and "proprietary information" will be handled in the same manner.



ICY DECK—Several inches of ice covered deck of Convair-designed U. S. Coast Guard buoy during recent cold wave along East Coast. Seas had calmed when photo was taken but previously severe weather had delayed retrieval from station off Sandy Hook, N. J. — U. S. Coast Guard photo.

Electronic Equipment For Sea Buoy Shipped

Over $180,000 of digital electronic equipment was shipped from Convair's San Diego plant last week to the East Coast where it will be installed in the U. S. Coast Guard's first large navigational sea buoy to measure sea and atmospheric conditions.

The oceanographic and meteorological data acquisition system was designed and assembled at Convair under a follow-on contract received a year ago from the Coast Guard. Initial contract giving go-ahead for construction was awarded Convair in mid-1966.

The basic buoy, 40 feet in diameter and weighing 50 tons, has been on station six miles off the Coast Guard station at Sandy Hook, N. J., since last July, fulfilling the duties of the old Scotland lightship. In the six months the buoy has been moored at sea, it has lived up to all expectations, according to reports received by D. B. Dewey Jr., Convair project manager for the Coast Guard Buoy.

It has had a workout in all kinds of weather — from extreme heat to severe cold.

In fact, retrieval of the buoy was delayed at least a week because of rough and extremely cold weather which prevented the securing of the buoy and towing it to shore. An icicle, about 15 feet long, hung from the tall superstructure at one time and at least six inches of ice covered the deck.

The buoy was retrieved on Jan. 18 and is now being outfitted with the instrumentation system which will increase its capabilities far beyond its original function as a navigation aid. The Convair-designed data acquisition system provides measurement, acquisition, and processing of oceanographic and meteorological data. Data will provide information on sea water temperature, pressure, conductivity, speed and direction of currents, air temperature, barometric pressure, wind speed and direction. The system enables the buoy to respond upon command from an on-shore computer in the control center at the Sandy Hook Coast Guard station.

A small general-purpose digital computer is the brain of the system. Other components in the control center are an IBM compatible digital tape recorder, signal simulation equipment for shore

(Continued on Page 2)

Conservation Program Has $1 Million Goal

Implementation of Convair division's new Conservation Program, designed to reduce 1968 expenditures by $1 million in six indirect-budget categories, began this week.

The Conservation Program plan, establishing goals for each department and defining specific measurable action to attain the goals, was issued last Friday (Jan. 26) for department managers.

Categories and reduction goals are: travel, $267,000; photo and reproduction, $110,000; operating supplies, $235,000; telephone, $150,000; perishable tools and equipment, $120,000, and plant maintenance and equipment, $118,000.

E. D. Heller, manager of cost reduction and value control, is administering the program.

Convair division staff members will be responsible for seeing that their departments meet goals in each category. Each departmental cost reduction representative will monitor his department's participation.

"The Conservation Program highlights areas of indirect costs that are often overlooked because of their extensive application," Heller said. "Although an individual department's expenditure and savings goal in any one category may not be impressive, the division aggregate is very significant."

Total departmental budget-reduction goals are: general manager, $2,500; legal, $1,700; community relations, $10,600; contracts, $17,100; marketing analysis, $3,000; military space programs, $8,500; reliability control, $29,400; finance, $73,300; material, $56,000; industrial relations, $38,000; research and engineering, $275,000; launch vehicle programs, $64,300; Kearny Mesa operations, $350,200, and Lindbergh Field operations, $70,300.

(Continued on Page 2)



"SECRET" DESTRUCTION—Unessential "secret" documents purged from Convair files are fed into pulverizer at Kearny Mesa by Jess L. Pedigo of Dept. 840-3 as Guard W. A. Matt observes (photo at left). At right, E. C. Allen, Dept. 840-3 salvage handler, rakes remains of material from pulverizer chute into disposal container.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Jan. 15 and Jan. 31.

Twenty-five-year: Dept. 005, K. E. Coughlin; 031, H. J. King; 045, J. F. Montejano, L. Parsons; 059, C. A. Banks; 149, A. R. Zullo; 196, Noreen N. Downs; 400, F. N. Shepard; 401, R. J. Calahan; 511, D. J. Fraser; 551, L. L. Schaller; 587, R. T. Sulling Jr.; 759, J. F. Young; 964, G. W. Bates.

Twenty-year: Dept. 059, F. A. Ohm; 101, L. O. McGriff; 143, R. S. Sutton; 250, F. E. Kempner; 761, E. G. Brekke; 810, T. N. Houk; 831, T. R. Packer, Jr.; 958, F. O. Clark.

Fifteen-year: Dept. 002, G. J. Sudac; 144, E. E. Mattson; 146, W. L. Vierra; 250, G. Hartwig, W. L. Hubbel, R. G. Hopkins; 400, W. L. Larson; 517, S. T. Gmyr; 565, Patricia S. Stacey; 579, E. J. Wehrhan; 595, W. C. Cornell; 820, H. J. Lorenz Jr.; 964 W. W. Linder; 979, M. E. Beam; 985, J. L. Mahan.

Ten-year: Dept. 101, P. A. Thibodeau; 130, A. S. Gayton; 143, D. W. Reynolds; 146, B. L. Roberts; 170, Gladys A. McWilliams, F. G. Pallan; 194, Barbara Powell; 400, R. L. Stafford; 454, J. J. Davis, F. Mitchell; 518, Ruby H. Adkins, Muriel E. Bishop; 533, F. B. Drummond; 544, G. A. Kimball; 566, R. E. Harders; 572, R. W. Quint; 583, J. R. Rausch; 756, G. F. House; 780, Eleanor R. Bare, D. H. Beighley, L. D. Richey; 831, D. L. Johnson, 833, Dixie W. Green; 840, Y. Okuma; 962, C. H. Oliver; 979, R. W. Casper, A. D. Conner Jr., R. A. Finnie, E. E. Mattoon, C. A. McClain, S. T. Puleo, J. W. Shaw, G. W. Wilson; 988, B. A. Spencley.

STROMBERG-CARLSON

Ten-year: Dept. 8510, Cynthia Schick.

Awards

CONVAIR

Employe Suggestion awards approved for the week ending Jan. 12.

Dept. 001-0, Scotty Boyd; 002-0, H. B. Bender (two awards), B. J. Rogers (two awards); 015-0, J. R. Laccabue Sr.; 019-0, B. Wesson Jr.; 027-0, G. R. Comfort, C. L. McNeal; 141-2, W. J. Knox; 141-4, J. C. Jolley; 143-0, Juanita M. Baker; 144-2, M. J. Sorg; 146-6, F. J. Hogan; 149-0, G. C. Hammer; 149-4, R. Steele (two awards); 193-3, R. C. Firestine; 400-1, J. P. Kuswara; 401-0, E. R. Boucher; 401-1, C. H. Gladding; 506-1, L. D. Jacks; 543-3, G. M. Carlson; 733-0, R. E. Reeves; 761-0, C. W. Neal; 763-1, T. M. Sammon; 810-1, J. L. Kressin; 835-3, J. R. Ourand Jr.; 840-3, M. F. Gonzales; 860-0, M. E. Kruger; 979-4, J. D. Vester; 985-1, R. S. Traxler; 985-5, L. D. Deveny.

Employe Suggestion awards approved for the week ending Jan. 19.

Dept. 001-0, W. K. Richeson; 015-0, R. L. Doyle, R. N. Moxley, R. D. Slater; 019-0, H. W. Jackson, G. F. Reutlinger; 031-0, Tomas Castro (two awards), C. P. Glover, H. F. Whisman; 045-0, R. E. Pendarvis (two awards); 143-5, T. J. Marcella; 144-1, G. R. Gray; 144-2, P. J. Asprion Jr. (four awards), M. J. Sorg; 149-5, M. C. Woody; 401-5, F. R. DeGreef, R. A. Taylor; 401-6, J. F. McConnell; 588-1, F. L. Dohm; 715-0, F. E. Hitchcock; 820-0, T. E. Barker; 850-0, E. Bender; 958-4, F. O. Clark; 979-1, M. S. Campbell; 979-3, G. L. Callon.

ELECTRONICS

The following Employe Suggestion awards and Cost Improvement Proposals were approved during the fourth quarter of 1967.

Dept. 422, W. A. Duzyk and R. W. Allen (Dept. 424), joint award, C. R. Reina; 423, V. L. Bernard, J. R. Skimin; 465, R. L. Reiter; 921, C. E. George, E. Huber Jr., W. J. Kilmer, B. M. Lorentz, J. E. Slean.

Invention Disclosures

CONVAIR

BOND—W. H., Dept. 584-0. Mechanical Design of Moving Skin Boundary Layer Control Mechanism.

DICKERSON—J. E., Dept. 717-0. Gas Mixture for Welding.

LINTVEDT—V. L., Dept. 572-3. Multilayer Insulation Stabilizer.

SNYDER—R. E., Dept. 592-0. A Method for Electronically Cleaning a Direct Current Discharge Detector.

VELTON—E. J., Dept. 581-3. Stable Tail Sitter VTOL Airframe.

STROMBERG-CARLSON

EICHBERGER—J. E., Dept. 8560. Cathode-Ray Tube for Generation of Half-Tone Prints.

HAUERBACH—M., Dept. 8570. Method of Wiring Character Generator.

SAMPATH—P. I., Dept. 8520. Magnetic Kalvar Film. Everyman's Microfilm.

Retirements

CONVAIR

BECHT—Thomas E., Dept. 840-0. Seniority date Nov. 13, 1942, retired Jan. 5.

COBURN—Joseph B., Dept. 756-0. Seniority date Feb. 22, 1955, retired Jan. 1.

FARNSWORTH—Charles C., Dept. 845-1. Seniority date March 13, 1934, retired Dec. 17, 1967.

HART—Grant A., Dept. 405-0. Seniority date Sept. 10, 1951, retired Jan. 14.

HEMPHILL—Thomas M., Dept. 561-0. Seniority date June 22, 1931, retired Jan. 5.

ROSEBERRY—Joseph C., Dept. 985-1. Seniority date Feb. 20, 1958, retired Jan. 21.

VAZQUEZ—Joseph M., Dept. 045. Seniority date Jan. 20, 1947, retired Jan. 5.

WIGGAINS—Cecil E., Dept. 142-1. Seniority date Aug. 31, 1954, retired Jan. 5.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N. Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Monday, Feb. 5, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 14 auditorium. Tuesday, Feb. 20, 8 a.m. and 4:30 p.m.

AF Plant 19: ext. 491 LF, Bldg. 3, 1st mezz, Col. B-14 conference room. Thursday, Feb. 8, 8 a.m.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF STUDY—A limited number of programmed texts covering many subjects are available in the educational service office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Rider-Driver

CONVAIR

RIDE WANTED OR WILL SHARE DRIVING—From Escondido to Plant 19. 7:30 to 4:15 shift. Kenneth Lindsey, ext. 434 LF, or home phone 746-1571.

SHARE RIDE—From Rancho Bernardo to Lindbergh Field plant. 7-3:30 shift. Phone B. J. Handwerker, ext. 605 LF, or home phone 487-4761.

RIDE WANTED—El Cajon (near Granite Hills High) to Kearny Mesa, 8 a.m. to 4:45 p.m. shift. Phone Nina Reed, ext. 1513 KM or (home) 442-4938.

RIDE WANTED—El Cajon (N. Pierce St.), to KM, 7:00 a.m. to 3:45 p.m. shift. Call Frances Riley, ext. 1810 or 2105 KM or (home) 444-0560.

RIDE WANTED—Linda Vista Road near Morena Blvd. to Kearny Mesa plant, 7:30 a.m. to 4:15 p.m. shift. Phone Dan Ognibene, ext. 610 KM or (home) 298-4089.

Personals

CONVAIR

It is wonderful to know that one has so many thoughtful friends. Thanks for remembering me in my illness.

Harry Mielke
Dept. 780-1

* * *

The family of Roscoe L. Cook (retired 1964) acknowledges with deep appreciation your kind expressions of sympathy following his death.

* * *

We wish to extend our appreciation for the cards and flowers from all our friends at Convair upon the death of our husband and father, Donald Weaver Sr., Dept. 049.

Mrs. Dorothy Weaver & Family

* * *

ELECTRONICS - SD

We wish to thank our friends at Electronics for their kind expressions of sympathy following the death of our little daughter, Ann Lynn Souza.

The John J. Souza Family
Dept. 614 - Electronics

Tons Destroyed In Classified Papers Purge

(Continued from Page 1)

Beginning March 1, all cabinets containing DOD "secret" material will be patrolled by plant industrial security guards every four hours during non-working hours.

Sharp and Earl Riley, Dept. 130-1 supervisor of security and investigation, said they were well pleased with the "excellent results" of the purge and the manner in which procedures for implementing the new DOD regulations are being carried out.

More than 112,000 pounds of documents were purged from division files between Nov. 13 and Jan. 12 and destroyed in the two pulverizer machines at Kearny Mesa and Lindbergh Field salvage yards.

Sharp said this represented more classified materials destruction than had been accomplished during the entire 10½ month period from Jan. 1 to Nov. 13.

Material pulverized in the machine is mixed with water, shredded with tungsten-tipped discs and forced through a fine metal screen. The remaining pulp is dumped into disposal containers and trucked to a sanitary fill. Each of the machines can pulverize 2,000 pounds of paper an hour.

Convair Son Talks On AID Program

Bruce Handwerker, son of Ben Handwerker, Convair Dept. 493-0, was one of several key people of the U. S. Agency for International Development heard on television and radio the last couple of weeks during a concentrated recruitment program.

Handwerker, serving his third year in Viet Nam as a deputy director for New Life Development, part of the AID program, was flown to Los Angeles, Calif., from Saigon the middle of this month to take part. While here he described the need for civilians to aid in rebuilding Viet Nam, and interviewed applicants.

Conservation Target Set

(Continued from Page 1)

The aggregate goal of $1 million in savings represents a reduction of 12.2 per cent of the total budgeted for the year in the six indirect cost categories. Travel costs to be reduced are primarily those incurred by employes traveling on Convair business and to technical and professional meetings, and interview expenses paid to prospective employes.

The photo and reproduction account includes cost of photographs, photostatic prints, printing, blueprinting, reproduction and similar services procured from outside sources.

Telephone costs include charges for telephone instruments and their installation and relocation, special equipment including speaker phones and buzzer systems, and toll and long-distance call charges.

The operating supplies account includes supplies other than stationary and office supplies used by the department in carrying out its functions and includes cleansers, abrasives, gloves, polishes, etc.

Perishable tools and equipment items are those frequently used which, because of their nature, have a short life span and cost less than $300. Included are drill bits, reamers, files, small motors and various test equipment components.

The Conservation Program plan was developed by representatives from four major departments—B. J. Tanonis, research and engineering; F. W. Sterling, material; Conrad Wronski, finance; H. L. Williamson, operations. W. J. Ridge of the cost reduction and value control staff was coordinator.

Jack L. Bowers, Convair general manager, will review program performance with the division staff each month.

ASQC to Hear DCAS Speaker

Col. F.D.R. Sparrevohn, director of quality assurance for the Defense Contract Administration Services (DCAS) Los Angeles Region, will speak at a dinner meeting of the San Diego section of the American Society for Quality Control at 6:30 p.m., Feb. 12 in the Bronze Room, La Mesa.

He will review progress made by the DCAS quality assurance organization during the past two years and will discuss quality of contracts vs. quality of products, project ratios, alternative procedures, and a system of indices for measurement of quality effort by government and contractor.

J. Z. Mraz of the DCAS plant representative's office at Kearny Mesa is ASQC section chairman. L. I. Fredrickson of Convair's Dept. 140-1, vice chairman, will moderate.

Dinner tickets are available through section boosters including P. J. Asprion, R. E. Lowe, Fred Lay, C. L. Marks, J. D. Hollinger, G. J. Williams, W. L. Burkhalter and C. M. Hooper, at Kearny Mesa; G. A. Gibbons at Lindbergh Field; G. H. Townsend at Air Force Plant 19; R. C. Mansell at Electronics-SD.

Tickets Go on Sale For 'Sports Night'

Convair Management Club has scheduled a "Sports Night" Feb. 16 with members to see the San Diego Rockets take on the Philadelphia 76'ers in professional basketball play at San Diego International Sports Arena.

About 2,000 tickets are available at $2 and $1.50—a $1 discount — for Convair employes, relatives and friends. Ticket sales are being handled by Management Club Boosters and CRA outlets. Deadline for purchase is Feb. 12.



ZD AWARD—Don C. Prim, general manager at Electronics operations, SD, praises REINS assembly employes for error-free work which won the Zero Defects banner for last quarter of 1967. Candy and cigars were passed around after presentation.

Tight Delivery Met; Defects Cut in Half

Cutting rate of defects in half, and still meeting a tight delivery schedule, won REINS assembly area of Electronics operations at San Diego the division's Zero Defects banner for the last quarter of 1967.

This was the second ZD win for the section. It previously had won the award for performance during the third quarter of 1966.

General Manager Don C. Prim, in congratulating the men and women in REINS assembly, said: "It is this type of performance that keeps our customers satisfied, and has resulted in our getting orders for additional REINS radars."

During the last three months the 12 women and 11 men employed in REINS assembly substantially reduced defects from 14.3 per 100 manhours to 7.54. Several of the assemblies were delivered two to three months ahead of schedule.

Electronics-SD is producing REINS assemblies under a contract from North American Aviation Autonetics Division. REINS (Radar Equipment Inertial Navigation System) is a major subsystem of the navigation and bombing system in the Navy's A5D Vigilante attack bomber. The planes are now in action in the Viet Nam war theater.

Electronic Equipment For Sea Buoy Shipped

(Continued from Page 1)

station checkout, digital clock, teletypewriter which punches out taped instructions for the computer, and an interrogate mode control panel.

The computer, in addition to requesting information from the buoy, controls all decoding and processing.

Installed on the buoy are the oceanographic and meteorological sensor assemblies which measure ocean and air parameters and convert the information into digital code for relay to the shore station over the radio telemetry link.

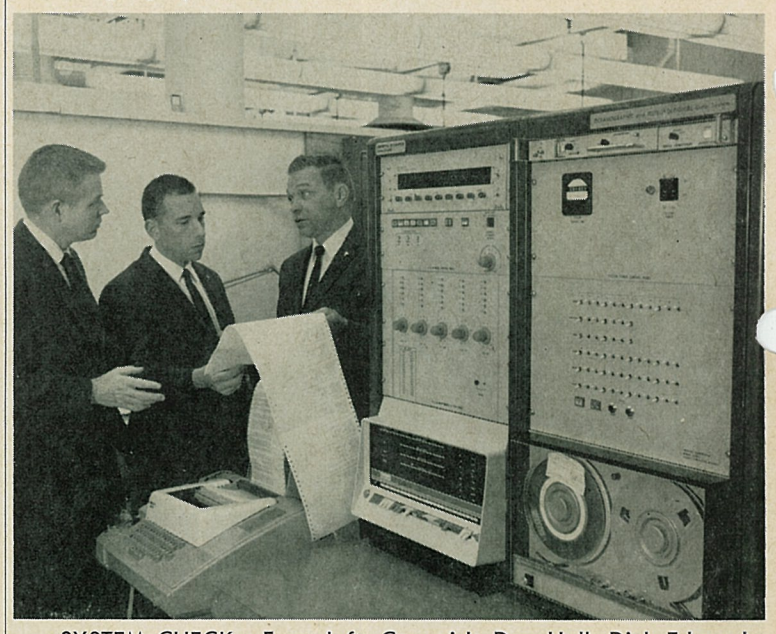
State-of-the-art design concepts were used in development of the system, explained Dewey. These already-proven concepts were implemented with off-the-shelf commercial equipment.

Dewey credits a team headed by Don Hall, senior design engineer, for successful culmination of the design project. Others were Gordon Brickson, senior design engineer in charge of mechanical and power system; Dick Sholly, senior electronics engineer responsible for the system's digital design; Dick Edwards, electronics engineer who accomplished the computer programming; and Roger Hollings, design draftsman who made all interface drawings.

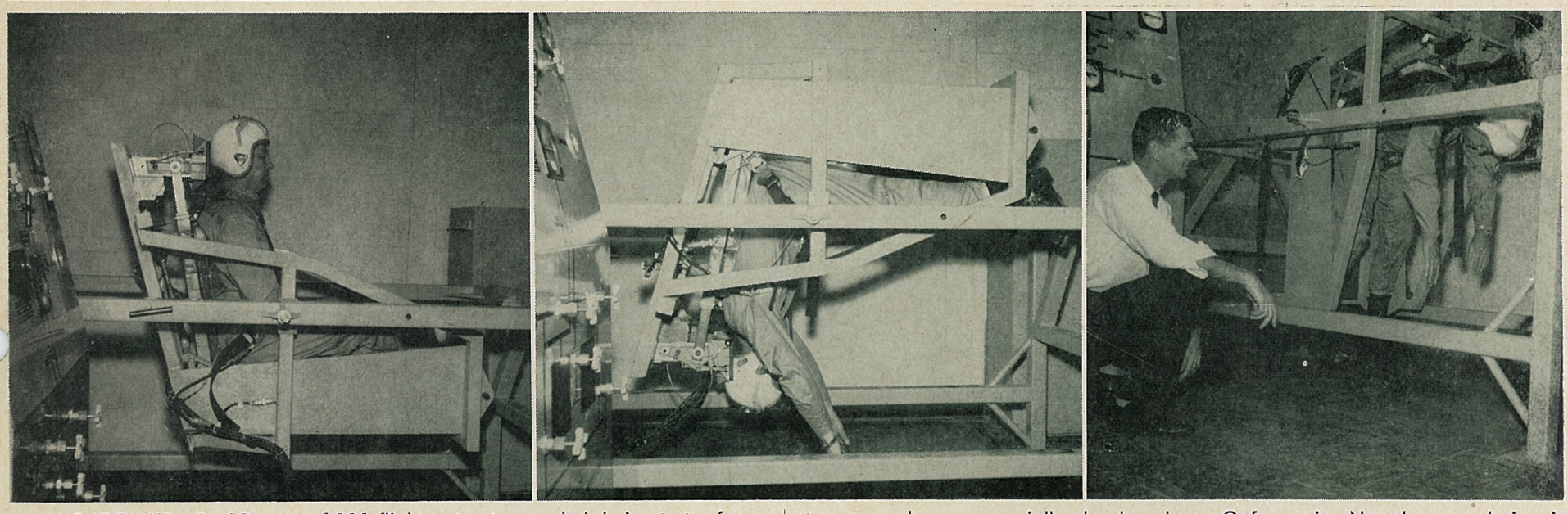
Convair personnel are supervising installation at the Sandy Hook station and will check the system out and train Coast Guard operators before their return to San Diego.

Compass Rose Lot For Parking Closes

Parking in the compass rose lot at the north end of Lindbergh Field will be discontinued as of tomorrow, Feb. 1. Convair's lease of the 500-car lot has been discontinued because of lack of use by employes at the Lindbergh Field plant.

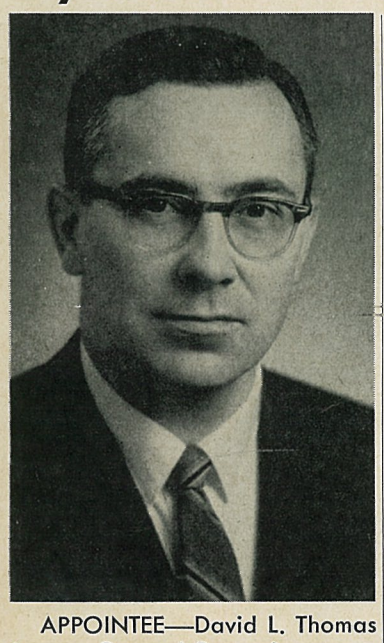


SYSTEM CHECK—From left, Convair's Don Hall, Dick Edwards, and Dick Sholly look over printout of teletypewriter during check at San Diego of oceanographic and meteorological data acquisition system now being installed in Coast Guard's navigational buoy at Sandy Hook, N. J., station. Buoy was designed at Convair especially for Coast Guard.



ALL SHOOK UP—Paul Brewer of 111 flight test gets upended during tests of new single-point release harness. Ken Monroe, GD fluid dynamics test engineer, monitors procedure on specially developed one-G force rig. New harness design is expected to save time in unhooking as well as hooking up.

David Thomas Appointed Dynamics Comptroller



APPOINTEE—David L. Thomas is new General Dynamics comptroller.

David L. Thomas has been named comptroller of General Dynamics, Roger Lewis, president, has announced. He succeeds William T. Lake, who has been appointed assistant to Carl G. Holschuh, vice president-Marine Systems group.

Thomas joined General Dynamics in April, 1961, and two months later was appointed assistant comptroller and director of financial planning. Prior to joining General Dynamics, he was controller at McCall Corp., and from 1949 to 1959 held various financial positions with General Electric Co.

Thomas, 40, was born in Ames, Iowa. He served in the United States Navy from 1945 to 1946. In 1949 he received a B.S. degree in business administration from the University of Nebraska. A member of the Financial Executives Institute, Thomas is a certified public accountant.

People Mobility

Appointments and Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

CHARLES MASSEY (1952) from Fort Worth division to Corporate Headquarters, as director of financial planning and analysis; **THEODORE A. SZEJN** (1956) from Convair to senior field engineer, Electronics, San Diego; **JOHN R. ANDERSON** (1961) from Convair to senior engineer, Electronics, San Diego; **VIRGIL K. BERTEL** (1963) from Convair to Electronics, San Diego as senior engineer; **CHARLES H. GUTZLER** (1956) from Convair to Electronics, San Diego; **JOHN C. MALLORY** (1963) from Convair to senior engineer, Electronics, San Diego; **ANTHONY T. S. CHANG** (1964) from Convair to senior engineer, Electronics, San Diego; **JAMES J. DOUGHERTY** (1957) from Convair to Electronics, San Diego as research engineer; **ADRAIN J. MANCUSO** (1959) from Convair to Electronics, San Diego as senior engineer; **HERMAN S. MUMMA** (1967) from Convair to planning and control analyst, Electronics, San Diego; **MARION G. WILLIAMS** (1955) from Convair to Electronics, San Diego; **ROBERT D. MULLIN** (1966) from Convair to senior engineer, Electronics, San Diego; **CLAIR N. SWARNER** (1964) from Convair to Electronics, San Diego as design specialist; **NOEL D. URI** (1967) from Convair to Electronics, San Diego as associate engineer.

No Immediate Effect Foreseen From British Cancellation

Cancellation of the British version of the F-111—the F-111K—will have no immediate effect on the work force at Fort Worth division.

President Frank W. Davis made this statement following the British government's recent decision to cancel 50 of the variable-wing fighters previously ordered by the Royal Air Force.

"Certain features of the F-111K are peculiar to that version," Davis said. "Some F-111Ks are in various stages of development, but none have been completed.

"Long-term effects on the work force at Fort Worth division will depend in part on what the U.S. decides to do with these F-111-Ks."

A definitive F-111 production contract valued at $1,821,000,000 was announced May 10, 1967.

Breakdown of the 493 aircraft included: 331 F-111As for Tactical Air Command; 64 FB-111s (bombers) for the Strategic Air Command; 24 F-111Bs for the U.S. Navy; 24 F-111Cs for the Royal Australian Air Force; and the 50 F-111Ks for the British.

SAS OFFICIALS DISCUSS 440s

Arvid Gudmundsen, manager of engineering for Scandinavian Airline System's Norway Region and Nils Scholz, chief pilot of SAS 440 operations, were at Convair early this month to discuss technical aspects of Convair-Liner 440s with service engineers at Lindbergh Field plant.

School Counselors To Hear Sylvester

G. E. Sylvester of Pomona division will be keynote speaker at a vocational education symposium Feb. 13 at Mt. San Antonio College.

The symposium, sponsored by the Foothill Division of the Southern California Industry-Education Council, is being held to familiarize high school counselors and administrators with the employe needs in nearby communities and with the actual roles of junior colleges and industry in vocational training.

More than 120 counselors and administrators from 30 high schools are expected to attend.

John W. Corr of Pomona division's educational services and co-chairman of SCIEC's Foothill Division, will lead a panel discussion summarizing the presentations made during the symposium on several specific vocational areas.

JAPANESE SCIENTIST CONFERS AT CONVAIR

Teikichi Otsuka, chief of the liquid propellant section of the National Aerospace Laboratory in Tokyo, Japan, visited Convair's Kearny Mesa plant Jan. 5 to confer with engine systems design engineers.

New Harness Release For F-111 Considered

In case of emergency, simply twist the control box, then walk away.

This is the technique Fort Worth division engineers are investigating in a new single-point release harness.

Harnesses are used to "strap" F-111 crewmen in their seats during flight, and especially during ejection.

The existing F-111 harness consists more or less of three separate belts for the chest and shoulders, the lap, and the crotch.

"The crewman has to 'hook up' at four separate points to get into the harness," said R. E. Moreman Jr., Dept. 64-2 associate engineer. "And by the same token, he must unhook at the same places after an ejection in the escape capsule.

"The new system has a circular, single-point release mechanism into which all straps are attached. A crewman can simply twist the release — in either direction — and the entire harness falls away.

"The existing harness works fine, but it's more complicated. Theoretically, the single-release unit would save the F-111 crewman seconds in unhooking after an emergency landing. And seconds at this point can be crucial."

Moreman said the single-release harness might also save the crew valuable time during a scramble, since it's easier to get into.

Air Force and Fort Worth division engineers will prove out the new harness system thoroughly before it is installed in production F-111s.

Air Force pilots have already conducted preliminary tests on a "Daisy Track" at Holloman AFB, N. M.

In Fort Worth division's Test Lab, Ken Monroe is overseeing a series of one-G tests on pilots in the 5th through 95th percentile.

A special test rig permits engineers to literally turn F-111 pilots upside down and sideways to see how the new harness stands up under varying conditions and loads.

The apparatus is so rigged that a one-G force is exerted from any of the positions. This data is scaled upward to determine the overall loads effect on the harness.

Crewmen ranging in height from 5 feet, 5 inches to well over six feet have gone through the "shake, rattle and roll" procedure. Their weights have ranged from 130 to 240 pounds.

McDonnell Aircraft, manufacturers of the escape module, is tentatively slated to modify two seats with the new harness for installation in an F-111A.

In-flight tests would then be carried out at Fort Worth.





BONDS HONORS—In top photo, Roger Lewis, president of General Dynamics, accepts "Twin Seal Plaque Award" from Nathan L. Fial, New York State director, U. S. Treasury Dept., Savings Bond Division, symbolic of Federal Government's appreciation for "outstanding participation" of General Dynamics employes in Payroll Savings Plan. Lower photo: taking part in award of individual certificates, from left: J. A. Hawkins, Corporate employe services coordinator; E. C. McManus, Corporate director of employe services; Sy Gruber, Manhattan Area Savings Bond representative; Algie A. Hendrix, Corporate vice president; Fial.

Rand Executives Visit Convair

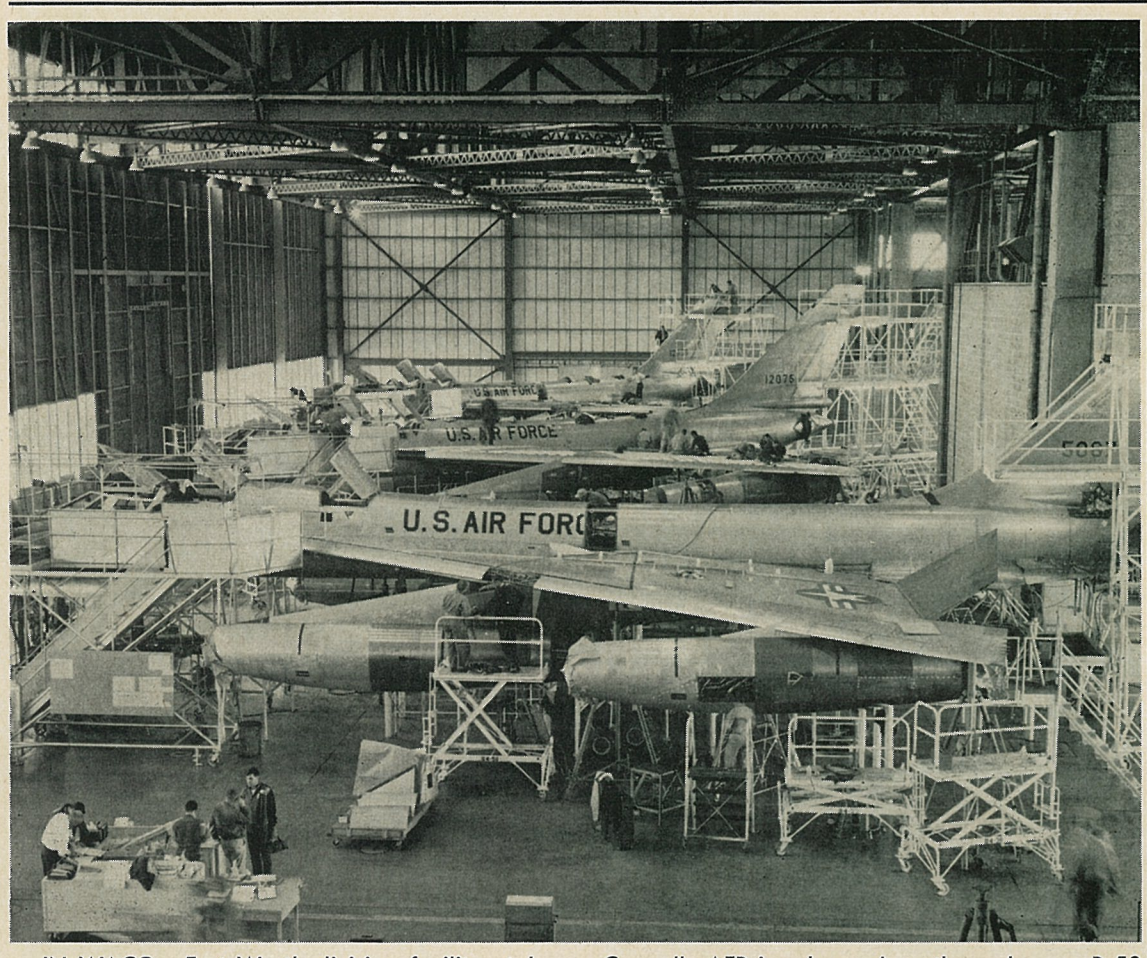
Harry S. Rowen, president, and eight other executives of the Rand Corp. in Santa Monica, Calif. were briefed on some of Convair division's current programs and planning for the future in a classified presentation Jan. 30 at the Kearny Mesa plant.

Jack L. Bowers, Convair general manager, welcomed the visiting officials and discussed General Dynamics and Convair organization and major product lines. Convair's planning procedures were outlined by Robert J. Lutz, director of marketing analysis and planning.

Studies on multipurpose reusable spacecraft were described by R. A. Nau, reusable launch vehicles by F. J. Dore, NASA space plans by D. J. Jones, vertical short-takeoff-and-landing aircraft by L. C. Josephs, and A-X aircraft by C. L. Adcock.

Presentations also were given on composite materials by W. H. Schaefer, data processing by K. A. Stone, and the proposed environmental data network by R. F. Devereux.

Is it news? Pick up a phone and call GD/NEWS



IN WACO—Fort Worth division facility at James Connally AFB is a busy place these days as B-58 Hustlers are cycled through IRAN program.

B-58s Undergo IRAN at Waco

Cycling of B-58 Hustlers through an Inspect-and-Repair-As Necessary program at James Connally AFB in Waco is moving along on schedule.

"We've already IRANed seven B-58s, and we now have a full house of eight Hustlers in hangars at Connally," said E. E. Finch, manager of the Fort Worth facility at Waco. Another B-58 is also undergoing modification work there.

The combat-ready aircraft are from the nation's two B-58 wings: the 305th Bomb Wing at Bunker Hill AFB, Peru, Ind., and the 43rd Bomb Wing at Little Rock AFB, Ark.

The IRAN program started last July and is expected to run through July. All told, 33 Hustlers are programmed.

Modification work consists in the main of dismantling the airplanes, making necessary repairs, and reassembling.

A total of 55 B-58s previously received IRAN treatment at Fort Worth division. The program was then switched to the Waco site because of space shortage at Fort Worth.

"We're quite pleased that the program is moving ahead on schedule," Finch said. "On the average, we're cycling a B-58 through the program in 40 manufacturing days."

Finch reported the "reception" of the Fort Worth operation in Waco had been "excellent."

"We have about 600 people on the payroll," he said, "and a majority of these were hired in Waco.

"We've had a great deal of help from the James Connally Technical Institute located here at the base. They have also handled our supervisory training.

Finch said employment had "peaked out" for the moment, but that skilled electronics and field operations people are always needed.

Although the IRAN program is slated to phase out in July, other B-58 work may be obtained in the future. The entire B-58 combat fleet is scheduled for updating —including latest modifications— starting this summer.

The B-58 is the only Mach 2 bomber in the Air Force's inventory.

Mgt. Membership At All-Time High

FW Management Association membership reached an all-time high of 4,441 members in January, and Membership Chairman Bob King is optimistic about future growth.

"Our goal is 5,000 members this year," King said. "With active help from every member, I feel certain we can make it."

Reconnaissance F-111 to Try Out Cameras, Radar

A developmental RF-111A reconnaissance aircraft will make a series of subsonic flights near Waco, Texas, during the next six months to test its cameras, radar and infrared equipment.

The reconnaissance aircraft will make an average of six subsonic flights a month over photographic and infrared-resolution targets and radar reflectors located on the ground at James Connally Air Force Base for the tests. The flyovers will be conducted at altitudes as low as 1,000 feet and as high as 30,000 feet.

Flights will originate and terminate at Carswell AFB. Fort Worth division will conduct the tests.

First flight of the developmental RF-111A was made in December. Most of the sensors in the RF-111A are proven hardware from other Air Force and Navy reconnaissance programs. They are operated through a specially-designed digital computer reconnaissance control system, which also can be used to test the sensors and cameras in flight or on the ground.

Except for additional radomes, and optical windows under the weapons-bay area, the reconnaissance version looks the same as the F-111A fighter-bomber now in service with the Tactical Air Command.

The RF-111A will have all the capabilities of other modern reconnaissance aircraft, plus all of the additional capabilities of the basic F-111, such as additional range, and short takeoff and landing that will permit utilization of many more air bases.

Is it news? Pick up a phone and call GD/NEWS

Salvage Schedule

Next sales day for General Dynamics employes at the Convair salvage yard will be Saturday, Feb. 3, 8 a.m. until noon. The salvage yard is located at Lindbergh Field plant, adjacent to Gate 5, and is reached by the Washington St. extension. Admittance is by ID card.

Reliability Control Men Will Speak

Four Convair reliability control department men will present papers at the 1968 Western Regional Quality Control Conference Feb. 1 and 2 in Phoenix, Ariz.

Speakers and topics are Joseph M. Bowers of Dept. 140-1, "A-B-C's of quality motivation"; H. H. Mishler, Dept. 140-2, "Discrepancy reporting and corrective action"; W. T. Hollar, Dept. 141-2, "Space-age training needs"; R. W. Becker, Dept. 141-4, "Maintaining system cleanliness during assembly of the Centaur vehicle."

The conference will be hosted by the Phoenix section of the American Society for Quality Control.

Data Gathering Buoy Papers Presented

Two papers on Convair's oceanographic data-gathering buoy program were presented last week at the Fourth National ISA Marine Sciences Instrumentation Symposium at Cocoa Beach, Fla.

J. W. Petre, chief requirements engineer, marine systems, gave a progress report on the buoy program for 1967. Robert Devereux, ocean data station buoy program manager, spoke on "Real Time Oceanography: The Monster Buoy."

Today Is Last Day For Games Tickets

Today (Jan. 31) is last day for purchase of reduced-price tickets for the San Diego Indoor Games, a track and field competition scheduled for 7:30 p.m. Feb. 3 in the San Diego International Sports Arena.

Tickets are $4, $3 and $2—a 50-cent saving—and are available at CRA outlets.

COLLINS RADIO CO. MEN MAKE STOP AT CONVAIR

Eight Collins Radio Co. supervisors from Dallas, Texas, visited Convair's Kearny Mesa plant Jan. 8 while on a trip awarded by their company for outstanding cost reduction efforts. They were briefed on Convair products and cost reduction activities by Ray T. Blair Jr. and E. D. Heller.

Delta Divers Serving In Search and Rescue

Several members of CRA Delta Divers are serving on the San Diego Council of Diving Clubs' 30-man search and recovery unit, which provides trained divers to assist aquatic mishap victims.

Included are Cliff Kickbush, Jorge Zorrilla, Phil Swanson, Joe Walker, Jesse Manzano, Bob Nichols, and Jim McGinnis, all from Convair, and Rod Johnson of Stromberg-Carlson Data Products.

Kickbush is lieutenant for Team 4, composed of divers from outside the San Diego metropolitan area, and Zorrilla is lieutenant for Team 2, composed of divers from Pacific Beach and La Jolla.

Members of the unit provide search assistance as a public service and are on call to lifeguard, police, fire, sheriff's and harbor departments.

Four drowning victims have been recovered by the unit during 15 searches. Search locations have ranged from La Jolla Canyon and Mission Bay to Lower Otay Lake, the Coronado Islands and La Mission in Baja California. Some of the searches have been to 130 and 140-foot depths.

Where visibility and terrain permit, the divers use an "underwater sled," towed by a boat on the surface, to decrease search time for a wide area.

"Line searches" with divers spaced at intervals along a line, "circular searches" with divers working in a circular pattern around "spotted" anchors, "random searches" and "compass runs" where the terrain is too rugged for line use are among techniques.

"Things get pretty hectic at times," Kickbush recalled. In one lake bottom search, visibility was almost zero and the divers were hampered by mud, grass, broken glass, and fishing lines.

The unit also provides guard divers for hydroplane races at Mission Bay but rejects requests for lost object searches and other duties normally handled by commercial divers.

Members of the Delta Divers helped establish the search unit about five years ago. Don Alden of Electronics-SD developed the unit's first training manual and later served as search and rescue chairman for the national Underwater Society of America.



SEARCH DIVERS—CRA Delta Divers participating in recent search and recovery unit practice session, clockwise from top left, are Phil Swanson, George Jonilonis, Joe Walker, Jorge Zorrilla and Jim McGinnis.

Atlas SLV-3 Booster Selected For Use With Boeing Burner 2

A Convair Atlas SLV-3 booster will be used with a Boeing Burner 2 second-stage vehicle by the Air Force Space and Missile Systems Organization during the latter part of 1968 for launch of nine Space Experiment Support Program (SESP) scientific payloads into four different orbits from Vandenberg AFB.

James L. Minos, Convair program manager, said the flight will mark first use of the SLV-3 with a second-stage vehicle other than the Agena.

The booster scheduled for use, No. 7004, is a "spare" that originally was scheduled for the Air Force's PRIME (precision recovery including maneuvering entry) program. The fourth PRIME flight was cancelled because of the success of the first three.

Robert J. Voth of Convair's advanced program development Dept. 950-2 assisted in developing plans for the vehicle's use and the assignment of the SESP mission to the SLV-3.

Data Products Club Hears Talk on Crime

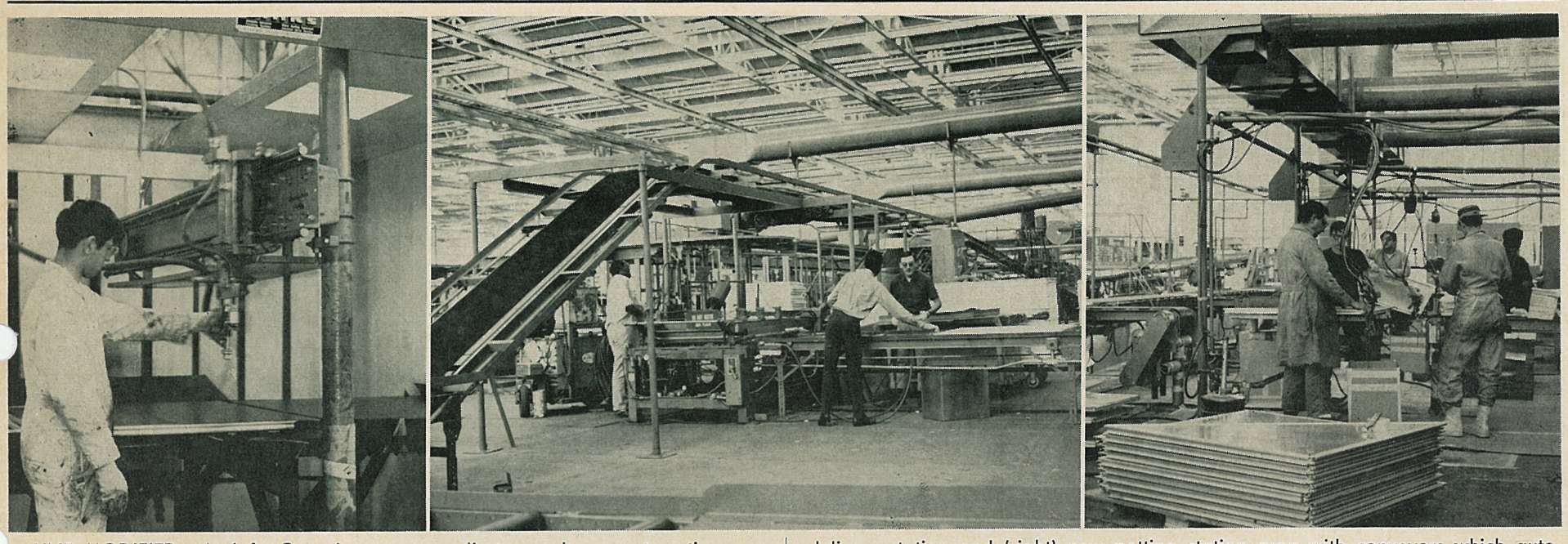
Stromberg-Carlson Data Products Management Club heard Lt. William B. Kolender, director of community relations for the San Diego Police Dept., speak at the Jan. 25 meeting. Lt. Kolender talked on public apathy to crime and criminal influences in the community. The dinner meeting was held at MCRD.

Deductions Listed For Income Returns

Convair employes itemizing medical deductions on their 1967 income tax returns may deduct insurance premiums for dependents for the period during which they were paid.

Dependent insurance premiums for hourly employes were $2.68 weekly Jan. 1 through Oct. 1, 1967, and $2.33 weekly Oct. 2 through Dec. 24, 1967. Premiums for salaried employes' dependents were $2.68 weekly Jan. 1 through Sept. 3, 1967, and $2.01 weekly Sept. 4 through Dec. 24, 1967.

California disability insurance payment also may be deducted as a tax paid to the state. This is 1 per cent of the first $7,400 in earnings, or a maximum of $74 for the year.



LINE MODIFIED—At left, Convair operator adjusts nozzle on automatic spray gun in one of two non-skid spray booths which replace former paint booth for applying anti-skid material to airfield landing mats on Convair automated line. Among other improvements installed at Lindbergh Field plant are (center) new delivery station and (right) new potting station area with conveyors which automatically feed mats to one of three stations. Modifications will eliminate down time for maintenance or repair and will allow smooth, continuous operation to assure steady rate of mat production.

'Big Nickels' Will Recognize C-5 Cost Reduction Efforts

"Big Nickels," looking much like 50-cent pieces but representing a lot more in savings, will soon be given all Convair people contributing to reduction of costs on the C-5 empennage, which Convair is building for Lockheed-Georgia Co.

The Big Nickel is a Lockheed award. The coins themselves will be supplied by Lockheed; the ground rules are those already set up for the Convair Employe Suggestion and Cost Improvement Proposal program.

However, in addition to ES cash awards and CIP certificates, suggesters whose cost-saving ideas pertain to the C-5, will receive the Big Nickel mementoes. All suggestions received since the first of 1968 will be eligible. First awards probably will be made in March.

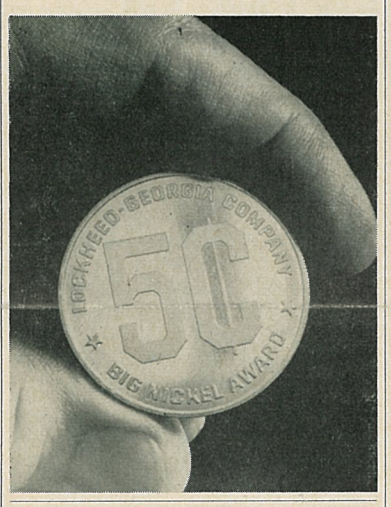
Everyone working on the C-5 program — engineering, tooling, factory, material, and quality control — will be included automatically in the program, R. W. Miller, Convair C-5 program manager, said.

"We are glad to become a part of Lockheed's Big Nickel program, and help make every nickel count during production of C-5s," he continued.

In announcing the program, John P. McCarthy, Lockheed-Georgia director of materiel and C-5 subcontracts manager, explained: "Every nickel that does its full buying job is a Big Nickel.

"And every last nickel has got to buy its share of the C-5 in order that this airplane can be competitively priced.

"Big Nickel is a program of all of us and for all of us, and must be accomplished by all of us. Its results will be plainly visible when we walk down the assembly line 15 or 20 years from now and see those huge birds and their successors still rolling!"



Tours of Hawaii Will Be Explained

Details of Hawaiian Island tours offered General Dynamics families will be explained Feb. 6 at 7 p.m. at CRA Clubhouse, Kearny Mesa. Meeting will be in the TV lounge.

Color movies will show typical tours. Two packages, both 17 days, are offered.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Continued from Page 1)

reporting to the suggester were cut in half. We keep up with latest methods through the National Association of Suggestion Systems, to which we belong. However, we are always seeking inprovement. Any specific ideas?

★ ★ ★

Q—My late husband and I were married in 1964 and he retired from Convair late that year. He received retirement checks until his death last year, when they ceased. As his widow, am I entitled to his Convair retirement?

A—In your case, no. There are survivorship options which include the wife but these must be elected three years before date of retirement.

★ ★ ★

Q—While at Kearny Mesa I jogged a measured mile at noon each day to keep in physical condition. Now I'm at Lindbergh Field and we have no such facility. Couldn't we lay out a mile track in some inconspicuous place?

A—Yes, we could if enough interest is shown. Others interested please contact Lindbergh Field employe services, ext. 430 LF.

★ ★ ★

Q—Is it possible to have improvement classes for the second shift? Most are held in the evenings.

A—Yes, provided sufficient interest is shown. Interested employes should contact educational services, ext. 1931 KM.

$10,000 Approved For Aid Society

Members of Convair Employes' Con-Trib-Club on Jan. 11 approved payment of a third installment of $10,000 toward a pledge to the Boys' and Girls' Aid Society of San Diego for its building fund and of a second installment of $2,000 toward a pledge to the Boys' Clubs of San Diego for its swimming pool building campaign.

A $500 grant also was made to the Volunteers of America for its Christmas programs.

Con-Trib-Club Emergency Aid to employe families last year totaled $37,476.34.

New Step Taken to Protect Precision-Cleaned Components

Packaging materials for retaining cleanliness of precision-cleaned launch vehicle components have a "new look" at Convair.

The new brilliantly colored thin-gauge nylon and polyethylene film, tubing and bags used for the packaging indicate by their color that they have been, in their manufacturing process, rendered incapable of generating and retaining a static charge.

In addition to being safe for use around explosive devices and flammable chemicals, they do not attract airborne contamination like plain nylon and polyethylene materials previously used.

The new orange-color anti-static nylon will not shed contaminating plastic particles and is used primarily as an inner wrapping and cushioning material for precision-cleaned parts.

New pink-color anti-static polyethylene bags and materials are used as an external cover and provide a "moisture barrier" where such protection is required.

The new packaging materials, developed for NASA by the Richmond Corp. of Highland, Calif., are being used extensively in "clean rooms" and other selected locations at Kearny Mesa and Air Force Plant 19 for packaging of launch vehicle components including valves, actuators, regulators, fuel and dioxidizer probes and other parts.

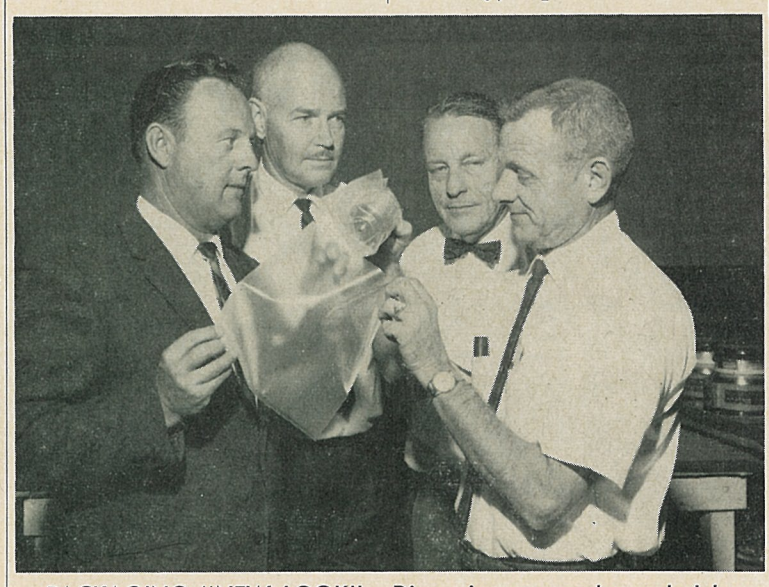
Twenty-four Convair division handling and packaging standards have been revised to incorporate requirements for use of the new materials.

Standard bar-type heat sealers are used for sealing the packaging.

Use of a newly developed "clean" adhesive tape that will not contaminate a clean area or precision-cleaned-parts packaging also has been instituted for taping nylon around parts for "cushioning."

Plans for procurement and use of the new packaging and sealing materials were developed by R. J. Vogler and D. E. McMurtrey, Dept. 493-0 materials handling and packaging engineers.

Process control verification tests on the new materials were conducted by D. K. Krosch and D. A. Menard of Dept. 141-2. Initial implementation of the materials usage was directed by J. F. Ridley, Dept. 733-0 foreman.



PACKAGING "NEW LOOK"—Discussing new color-coded bags for "retention of cleanliness" packaging at Convair are, from left, D. A. Menard, R. J. Vogler, D. K. Krosch and J. F. Ridley. Liquid oxygen boiloff valve bellows part, wrapped in anti-static nylon, is being inserted in anti-static moisture-resistant polyethylene bag.

Landing Mat Line Modification Includes Some Streamlining

Modification of the airfield landing mat automated line at Convair's Lindbergh Field plant is virtually complete with acceptance of new installations expected by the end of this month.

The line was shut down only a few days during the holidays for installation of equipment which will permit constant operation, without down time for maintenance or repair. For the most part, the modification consists of duplicate equipment as back-up machines, although some areas have been streamlined and updated for smoother operation.

Plant engineering and production engineering designed and manufactured the modifications and supervised installation.

Improvements, listed in sequence, are:

- Extra drying capacity added to the alkaline clean booth.
- An improved pan assembly station. Another, of the new design, will replace the original assembly station after the new one has been proofed.
- A back-up acid pumping system to allow duplicate acid etch capabilities.
- Two mat assembly stations in tandem so that operation can continue in case of mechanical failure of either.
- Improved hydraulic systems for loading and unloading on the bonding press.
- A mat conditioning and cooling tunnel added to reduce time needed for cooling and heating of oil used on the bonding press heating system.
- A second cover welder installed as a back-up to allow maintenance time without shut down.
- A new potting facility with three stations and conveyors equipped with automatic feeding mechanisms by which mats are automatically channeled to whichever stations are open and ready to receive them.
- Two non-skid spray booths replace the former high-speed curtain coater. Specially designed guns automatically spray anti-skid material on the mats as they pass through.

Improvements to the line will allow a production rate of 54 mats an hour, three shifts, six days a week.

So far, 6 million square feet of matting has been manufactured under two contracts from Kaiser Aluminum Chemical Corp. Production rate is ahead of schedule, George Carroll, production foreman, said.

A pilot production line is also starting operation for manufacture of half mats and repair mats for replacement of damaged mats in main runways. Half mats are used for attaching and closing taxiways to the main runways.

Mats now being turned out at Convair are being sent to Southeast Asia where they are laid as combat zone landing fields for military action in the Viet Nam war theater.

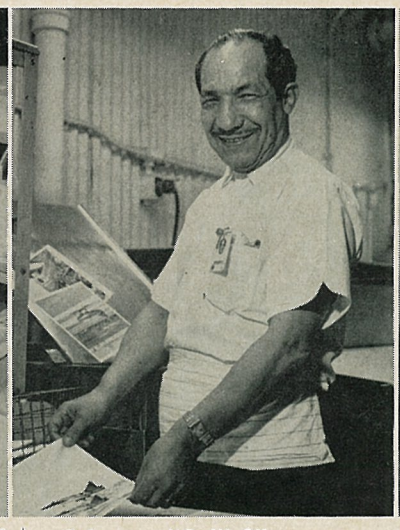
C. L. Jackson is airfield landing mat program manager at Convair.

$5 SAVINGS FOR GOLF OFFERED

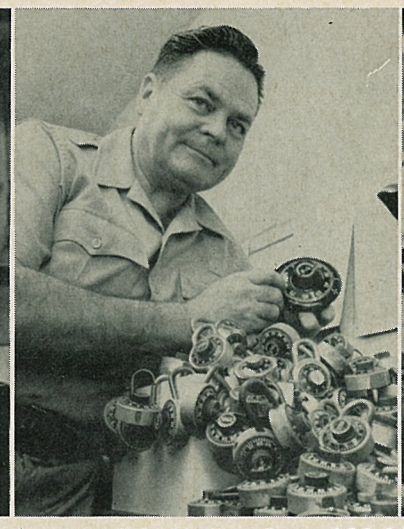
Tickets for all Andy Williams San Diego Open PGA and Pro-Am golf tournament events Feb. 6 through 11 at Stardust Country Club and Torrey Pines Golf Course are on sale at employe services outlets at $10, a savings of $5 each.



Pat Susee, a material records posting machine operator in Dept. 985-3 at Vandenberg AFB, uses IBM 6400 computer posting machine for keeping status records on Convair material at Vandenberg. Punched cards are sent to San Diego for tab runs. Mrs. Susee joined Convair 2½ years ago, lives in Lompoc with her husband, Wayne, and two children, and is director of the Lompoc Precissionaires, an all-girl drill team. While attending a military dependents' high school in Misawa, Japan, she was a majorette and song leader and served three years as a "disc jockey" for the Armed Forces' Far East Network.



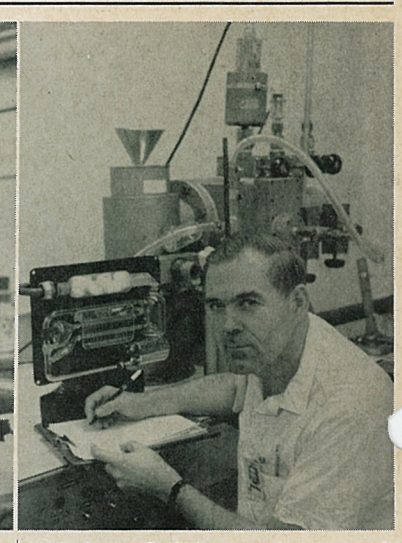
Sylvester "Sal" Silva was runner-up for the 1932 Olympics flyweight boxing team. He boxed under the sobriquet of "Baby Sal" from 1931 to 1935, winning the Golden Glove Tournament and the San Diego Exposition titles during those years. At the same time he was exercising race horses at the Caliente track. Born in Albuquerque, N. M., he spent his early years in Los Angeles and came to San Diego in 1930. He has been with Convair for 24 years as photo lab technician at the Lindbergh Field plant. His duties include washing, drying, and stamping prints. He is shown removing prints from flexoglass solution.



David O. Naill, a Dept. 130-1 locksmith, keeps track of about 55,000 removable core and combination locks and about 100,000 keys at Kearny Mesa and keeps all locks, including those for safes and vaults, in good working order. (Fred Schoolcraft has similar duties at Lindbergh Field.) Naill started as a locksmith's apprentice in 1936, combined locksmith and optical instrumentation duties during 20 years in the Navy, and has been with Convair 10 years. He lives with his wife, Olga, and has two sons in high school. He owns an instrument shop in National City and enjoys bowling, hunting and fishing in his spare time.



Dee Doiron, offset press operator in Convair graphic reproduction at Lindbergh Field, is wetting a plate before putting it on the Model 2550 multilith press behind her. Dee joined Convair nine years ago in the shop order group and moved to the former Astronautics division, also in shop order group. She went into graphic reproduction 2½ years ago. The mother of three children, two boys and a girl, ages 2½ to 10 years, Dee is expecting her fourth this spring. Her husband, Ray, is a foreman on the DC-8 motor assembly line at Rohr. They make their home in Point Loma Heights. Dee's mother lives with them.



Robert C. Wasmund, an engineering standards development technician in Dept. 142-1, is shown calibrating a low-pressure vacuum gauge in the vacuum laboratory in Bldg. 33 at Kearny Mesa. Mercury is used for accurate pressure measurement and liquid nitrogen to trap moisture and gases. Wasmund has been with Convair 11 years including seven years of work with temperature measurement devices. He formerly was employed six years as an instrumentation technician for General Electric. Wasmund and his wife, Dorothy, and their four children live on Kearny Mesa. He enjoys working with photography in off hours.

Applicants For Fellowships Have Until March 4 Deadline

Applicants for Convair division doctoral study fellowship awards for the school year beginning next September must submit applications and supporting material by March 4.

One or more fellowships for doctoral studies in engineering or related sciences are awarded by Convair each year. The fellowships are for a maximum of $4,000 a year, payable in 10 equal monthly installments, and may be renewed upon evidence of satisfactory performance.

Application forms are available at educational services offices and inquiries may be directed to Emory Thurston, ext. 1931 KM.

Candidates must be accepted for doctoral study by an accredited institution and must have been division employes for one year. Transcripts of all college grades and letters of recommendation from supervisors and previous school faculty members are required.

A committee reviews all applications.

Employes granted fellowships are placed on advanced-degree scholarship leave and must supply transcripts and progress reports to educational services at the end of each semester or quarter.

Currently working toward doctoral degrees under Convair fellowships are Ola Brevig, C. A. "Tony" Miller, Herbert Moskowitz, Paul L. Nunez III and Jack F. Ingber.

Brevig is now in his first year of study toward a PhD in mechanical engineering at the University of Tennessee Space Institute at Tullahoma, Tenn. Miller is in his second year of work toward a doctor's degree in math at UCSD. Moskowitz is a third year doctoral student in production and operations management at UCLA. Nunez is in his third year of work toward a doctor's degree in aerospace engineering at UCSD.

Both Moskowitz and Nunez had completed one year of their doctoral work before receiving fellowships.

Ingber is in his third year of study toward a PhD in aerospace engineering at UCSD.

Spaghetti and Beer On Mgt. Club Menu

Spaghetti and beer is the menu for tonight's (Jan. 31) Convair Management Club dinner in the Balboa Park Club building.

Social hour, with free beer and soft drinks, starts at 5:30 p.m. Dinner will be served at 6:30 followed by a short business meeting at 7:30. The South Market Street Jazz Band will play Dixieland jazz from 7:45 to 8:45 p.m.

50-Mile South Bay Bike Trip Planned

Bicycle Club members will take a 50-mile ride Saturday, Feb. 10, through the South Bay area.

They will leave the Bank of America building at Jamacha Blvd. and Sweetwater Ave. in Spring Valley at 7:30 a.m.

Cy Campbell, ride leader, may be contacted for information at ext. 1827 KM or home phone, 466-1881.

S-C's Fred Hamann Singled Out For Club Achievement Award

A Stromberg-Carlson man who is credited with more than 25 invention disclosures since he joined the company about 15 years ago, received the first Professional Achievement Award given by the S-C Data Products Management Club in San Diego.

Fred Hamann, manager of research and development at the Data Products division, was singled out for the honor at last month's meeting. The award was presented by Roger Anderson, chairman of the club's award committee. Hamann was nominated by Elmo Turnage, S-C Data Products patent coordinator.

Hamann joined Stromberg-Carlson in 1952 as an electronics engineer. Of his inventions he has had 10 patents issued and assigned to Stromberg-Carlson and General Dynamics. Five of these were issued during 1967. Three of Hamann's patents are in use in existing Charactron shaped beam tube designs.



INVENTOR—S-C's Fred Hamann is shown with Professional Achievement Award given by Data Products Management Club at San Diego. Hamann received honor for outstanding record of inventions.

Development Classes Scheduled To Start Soon at Both Plants

Sixteen management and professional development courses will be offered by Convair Management Club at Kearny Mesa and Lindbergh Field beginning next week.

Printed course descriptions and registration forms have been mailed to club members. Others may obtain copies by calling the Management Club office, ext. 3146 KM.

Following is a list of courses with information on number of sessions, times and locations for classes, names of moderators or instructors, and costs:

LINDBERGH FIELD

Principles of managing (technical and professional)—10 sessions; 4 to 6 p.m. Mondays beginning Feb. 5; Bldg. 5, Rm. 338; Phil Rader; book $5 (refundable); non-members $5.

Principles of managing (audio-visual series)—5 sessions; 4:30 to 5:30 p.m. Thursdays beginning Feb. 15; engineering auditorium; Gil Peyton; non-members $2.

Marketing and salesmanship (film series)—5 sessions; 4:30 to 5:30 p.m. Tuesdays beginning Feb. 6; engineering auditorium; Gerry Schmidt; members only.

Systems engineering principles—6 sessions; 4:30 to 6:30 p.m. Tuesdays beginning Feb. 6; Bldg. 5, Rm. 338; Warren Hardy.

KEARNY MESA

Principles of managing (non-technical)—10 sessions; 6 to 8 a.m. Tuesdays beginning Feb. 6; executive dining room (breakfast $1); William Chana; book $5 (refundable); non-members $5.

Principles of managing (technical and professional)—10 sessions; 4:30 to 6:30 p.m. Tuesdays beginning Feb. 6; Bldg. 26 conference room 1; Harvey Seibert; book $5 (refundable); non-members $5.

Principles of managing (audio-visual series)—5 sessions; 5 to 6 p.m. Thursdays beginning Feb. 8; Bldg. 2 presentation room; Richard Keehn; non-members $2.

Challenges of management—12 sessions; 4:30 to 6:30 p.m. Wednesdays beginning Feb. 14; Bldg. 26 conference room 1; David Epstein; book $7.50 (refundable); non-members $5.

Marketing and salesmanship (film series)—5 sessions; 5 to 6 p.m. Mondays beginning Feb. 12; Bldg. 2 presentation room; John Magill; members only.

Effective writing—8 sessions; 4:30 to 6 p.m. Mondays beginning Feb. 5; Bldg. 17, Rm. 2; Emory Thurston; non-members $2.

Effective communication (film series)—5 sessions; 5 to 6 p.m. Thursdays beginning Feb. 8; Bldg. 3, space sciences conference room; Hal Rubin; members only.

Modern memory methods—10 sessions; 7 to 10 p.m. Thursdays beginning Feb. 8; Bldg. 2 presentation room; Don Robinson; members $25; non-members $40; (first meeting will be free demonstration session).

You and your money—5 sessions open to husbands and wives; 7 to 9 p.m. Mondays beginning Feb. 12; Bldg. 2 presentation room; Richard Maguire and James Luster; materials $3; non-members $3.

Tomorrow's technology—8 sessions; 5 to 7 p.m. Wednesdays beginning Feb. 14; Bldg. 2, presentation room; John Wild.

Computers—a management tool—6 sessions; 5 to 7 p.m. Thursdays beginning March 14; Bldg. 2 presentation room; H. A. Shepard; members only.

Systems engineering principles—6 sessions; 5 to 7 p.m. Tuesdays beginning Feb. 13; Bldg. 2 presentation room; Robert Williams.

Lloyd G. Curtis, who developed the course schedule for the Management Club's management development committee, said some courses listed on the preregistration bulletin mailed to members have not been scheduled due to lack of adequate interest or availability of instructors.

FOUR COMMENDED BY UNITED CRUSADE

General Dynamics men at San Diego-located divisions have been commended by United Service Community officials for their contributions to the United Crusade during the fund-raising drive last fall.

Jack L. Bowers, Convair general manager, served as chairman of the manufacturing section of the Early Bird division. This division includes the area's largest industrial and business firms.

Ray T. Blair Jr., assistant to Convair general manager, was chairman of the metropolitan division.

Serving as loaned executives during the two months of the United Crusade were Paul Bazler Jr. of Convair customer requirements and W. W. Lynt, material analyst with Electronics-SD.

Bazler was assigned to communications industries while Lynt's assignment was in the electronics manufacturing category. Both reported to Joe Frivaldsky, USC campaign division director for commerce and industry.

Own-Time Students Reminded On Tuition Refund Requests

Convair employes wishing tuition refund for college-level, job-related courses during the spring semester have been reminded that requests (Form A346) must be submitted to educational services within three weeks after the start of classes.

Employes may be reimbursed for tuition costs for courses that are job related or considered of benefit to the division to a maximum of $225 per calendar year.

Those enrolled in approved graduate-level study programs also are reimbursed for 75 per cent of all tuition costs above the $225 limit.

Certification that the courses are job-related or of benefit to the division must be made on the request form by the employe's supervisor.

An official school grade report must be submitted to educational services at completion of the course for authorization of tuition refund payment. The payment is included in the employe's regular payroll check.

Students receiving reimbursement must be employes of the division both at the start of the course and at the time the refund is paid.

DISCOUNT OFFERED CONVAIR EMPLOYES

Jorgensen's Candy Kitchen at 816 W. Washington St., Mission Hills, operated by former Convair employe George Jorgensen, offers 10 per cent discount on all purchases for General Dynamics employes showing company identification.

'Winter Weekend' at Big Bear Limited to First 100 Signers

CRA Ice Skating Club is sponsoring its 15th Winter Weekend at Big Bear Lake for all General Dynamics winter sports enthusiasts on the weekend of March 1-3.

Attendance is limited to the first 100 people signing before the Feb. 23 deadline, said Commissioner Bud Davies.

Reservations should be made immediately to assure accommodations, Davies warned, since this popular trip usually fills early. No refunds will be made after the Feb. 23 closing date.

Cost of the entire weekend is $14 for each adult. Children under 8 are charged half price. Cost includes lodging for Friday and Saturday nights and three meals.

Accommodations are at Wawona Lodge and Gil Hutter of Prophet Co. will cater Saturday and Sunday breakfasts and Saturday dinner.

Each person is responsible for his own transportation. Distance from San Diego is 155 miles over good highways. Driving time is approximately three hours. Maps and detailed instructions will be mailed a week in advance. Motorists are cautioned that in case of bad weather, they must carry tire chains.

Reservations may be made at the CRA Clubhouse, Kearny Mesa ext. 1111 or employe services outlets at all San Diego facilities. For additional information call Davies or Lois DeSoto at ext 2751 KM, or Joan Kosen, 274-5227.

Joint Tennis Meet Slated

A CRA Tennis Club-Convair Management Club tennis tournament has been scheduled for Feb. 10-11, 17-18 and 24-25.

Competition will include men's singles and doubles, novice, intermediate, advanced and master's events and women's singles novice and intermediate. Mixed doubles will be scheduled at a later date.

Employes of all General Dynamics divisions and members of their families have been invited to participate.

Entry forms are available from Cecil Norwood, ext. 3439 KM; Bob Hintz, ext. 1542 KM; Mike Griggs, ext. 3536 KM, and Bob Herold, ext. 2035 KM.

Williamson Wins In Pistol Shoot

Joe Williamson, CRA commissioner, took first in both the .22-cal. NRA Police Course and NRA Short National matches at the CRA Pistol Club's Jan. 14 club shoot.

Roland Schneider was runner-up in the Police Course master class. Warren Walker topped the expert class and Dick Sutton came in second.

Schneider was close on Williamson's heels in the Short National, with Walker, third, and Jim Halfacre, fourth.

Members who will represent the club in competitive shooting are A. E. Kampmann, Schneider, Walker, and Williamson. The team is chosen on the basis of aggregate NRA Short National scores for the preceding quarter.

Pistol Club matches are held twice each month, second and fourth Sundays, at the San Diego Police Range located just off Hwy. 94 at Home Ave. and Federal Blvd.

For information call Walker at ext. 1104 LF, first shift, or Schneider, ext. 1564 LF, second shift.

Wives Planning Day Of Card Playing

Convair Wives are inviting wives of all Convair employes and their friends to join in a fun day of cards and games Feb. 7 in CRA auditorium.

Play will start at 10 a.m. and continue as long as anyone wants to take part. Brunch refreshments will be served and prizes given, said Flora Loftin, club president. Cost is $1 per person to cover expenses.

Reservations should be made by this Friday, Feb. 2. Call Fran Thompson, 278-1942; Anita Klepach, 264-1013; or Mrs. Loftin, 276-4270.

General chairman is Stella Stevenson. Committee chairmen are Mary Gaus, Eleanor Bulman, Margaret Brock, Leta Robinson, Doris Browning.

Good Trout Fishing Rewards Anglers

CRA anglers who traveled to Lake Jennings for the Fishing Club's outing over the weekend of Jan. 13-14 were rewarded with all the trout they could handle.

Phil Poche hooked the largest —an 18-incher. Next largest was caught by Earl McDaniel. Third prize went to Scotty Boyd.

Twenty-one gathered Saturday afternoon for the fish fry.

Fishermen Qualify For Button Awards

Seventeen Convair fishermen qualified for Southwest Anglers button awards for catches and bags during the last year. Awards were made at the Jan. 16 meeting.

Button award qualifiers were: H. M. Black, 135-lb. deer dressed; C. T. Boyle, 28-lb., 6-oz. white sea bass; A. E. Clauss, 25-lb., 4 oz. albacore; N. B. Coffinbarger, 21-lb., 6-oz., yellowtail, 9-lb., 13 oz. skipjack, 9-lb., 5-oz. bonita; H. M. Davidson, 3-lb., 8-oz. salt water perch, 28-lb., 3-oz. Chinook salmon; Viola Davidson, 3-lb., 4-oz. salt water perch; W. J. De La Font Sr., 20-in. rainbow trout; L. V. Ellis, 29-lb. albacore; J. A. George, 3-lb., 10-oz. sargo; T. A. Huchinson, 42-lb., 8-oz. white sea bass; E. E. McDaniel, 4-lb., 8½-oz. corbina; D. N. Neece, 25-lb., 9-oz. albacore; Philip Poche, 1-lb. bluegill, 6-lb., 10-oz. large mouth bass, 5-lb., 3-oz. large mouth bass; A. E. Ramsey, 75-lb., 14-oz. yellow fin tuna; L. M. Schulze, 7-lb., 8-oz. spot fin croaker; G. R. Theilacker, 200-lb. striped marlin; S. J. Williams, 11-lb., 8-oz. skipjack.

Whispering Palms Hosts Girls' Golf

Freda Magargal and Jean Hawthorne shot low net scores to win firsts in Flight A and Flight B at the Jan. 13 tourney of the GD Women's Golf Club.

Altogether, 26 played the Whispering Palms course in the monthly tournament.

Runners-up were Iris Oster and Edie Mellett. Third were Mabel Humphries and Margaret Clark.

Next match will be Saturday. Feb. 10 at the Mission Bay Golf Course.

Call Ora Carpenter at her home phone, 223-6095, evenings, or Doris Parker, at ext. 583 LF, for club information.

Lens Club Slates An 'Extra' Meeting

Convair Camera Club has scheduled a second monthly meeting during the week for the convenience of members who are unable to attend the regular third Sunday meeting each month.

For the present, the additional meeting will be held the first Wednesday evening at the CRA Clubhouse, Kearny Mesa.

Sunday meetings will continue at the Photo Arts Bldg., Balboa Park.

Starting time for both is at 8 p.m.

First week-day meeting will be next Wednesday, Feb. 7. Program will include a Kodak presentation on black and white photo finishing techniques.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is Feb. 6. Call ext. 1071 LF or ext. 3322 KM.)

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BADMINTON—Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park. Call Al Van Norman, ext. 1864 KM.

BALLROOM DANCING—Intermediate dance instruction Mondays, 7:30-9 p.m., CRA Clubhouse. Call Royce Riggan, ext. 1018 LF.

BASKETBALL—Fast-break and slow-break shop leagues play Wednesdays and Thursdays at Muni Gym, Balboa Park.

BICYCLE CLUB—50-mile South Bay ride Feb. 10. Leave Bank of America, Jamacha Blvd. and Sweetwater Ave., Spring Valley, at 7:30 a.m. Sunday rides continue each week at 2 p.m. from Islandia Hotel.

BONAIR FLYERS—Meeting Feb. 6, 7:30 p.m., CRA Clubhouse.

CAMERA CLUB—Meeting Wednesday, Feb. 7, 7:30 p.m., CRA Clubhouse, Kearny Mesa.

CERAMICS—Meetings Tuesdays and Thursdays, 7-10 p.m., CRA Clubhouse.

CHESS—Play Wednesdays, 7:30 p.m., CRA Clubhouse.

CHORUS—Rehearsals Tuesdays, 7:30 p.m., CRA Clubhouse. Call Jim Pate, ext. 3034 KM; Jo Anne Bray, ext. 1091 LF; or Walt Minor, ext. 1111 KM after 4:30 p.m.

DELTA DIVERS—Meeting Feb. 14, 7:30 p.m., CRA Clubhouse.

FENCING—Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

GARDEN CLUB—Meeting Feb. 7, 7:30 p.m., Floral Assoc. Bldg., Balboa Park.

GOLF—Sign-ups start tomorrow (Feb. 1) for CRA tourney (Feb. 17-18) at Rancho de los Penasquitos. Call ext. 511 LF for starting times.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Mondays through Fridays; 10 a.m. to 5 p.m., Saturdays. Call ext. 1111 KM.

HI-FI/MUSIC—Meeting Feb. 13, 7:30 p.m., CRA Clubhouse.

ICE SKATING—Registration open for Big Bear Weekend, March 1-3. Call Bud Davies, ext. 2751 KM. GD family skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

MINIATURE RAILROAD—Club meets noon Saturday, Feb. 3, in roundhouse, Missile Park. Call Al Kent, ext. 3314 KM.

PISTOL CLUB—Club shoot Feb. 11, 9:15 a.m., SD Police Pistol Range.

RADIO CLUB—Tour, Feb. 1, 7:30 p.m., of U.S. Navy Radio Receiving Station, Imperial Beach. Call Alex Halyburton, ext. 1846 KM.

RIDING CLUB—Meeting Feb. 14, 7:30 p.m., CRA Clubhouse.

RIFLE CLUB—Senior shoot Feb. 14, 7:30 p.m.; junior shoot Feb. 3, 1 p.m., Gillespie Field Range.

ROCKHOUNDS—Field trip Feb. 3-4 to Quartzsite, Ariz. Joint Rockhound and Riding Club meeting Feb. 14, 7:30 p.m., CRA Clubhouse.

SKI CLUB—Meeting Feb. 6, 8 p.m., Catamaran Hotel.

SPORTS CAR CLUB—Meeting Feb. 14, 7:30 p.m., Convair executive dining room, LF.

SQUARE DANCING—Dynamic Eights dance each Thursday, 7-10 p.m., CRA Clubhouse.

STAMP CLUB—Meeting Feb. 8, 7 p.m., CRA Clubhouse.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m., CRA Clubhouse.

TRAILERS—CRA Travelers meeting Feb. 6, 7:30 p.m., CRA Clubhouse. Call Virg. Marshall, ext. 477 LF.

TROPICAL FISH—Meeting Feb. 12, 7:30 p.m., CRA Clubhouse.

WIVES—Reservations to Card and Game Party (Feb. 7) close Feb. 2. Call Fran Thompson, 278-1942; Anita Klepach, 264-1013; Flora Loftin, 276-4270.

WOMEN'S GOLF—Tourney Feb. 10, Mission Bay course.

Rockhounds Plan Jaunt to Arizona

CRA Rockhounds will meet at Quartzsite, Ariz., this Saturday, Feb. 3, for a weekend campout and field trip.

Convair rock hunters will join other clubs at the Rockhound Pow Wow at Quartzsite over Saturday and Sunday. Club members will meet at the Quartzsite Community Center at 8 a.m. Saturday morning.

Organized field trips will take groups searching for hematite and crystals.

Free camping is available.

On Feb. 14 the Convair club will join the CRA Riding Club to watch a Walt Disney movie "The Horse With the Flying Tail," in the CRA Clubhouse. Meeting time is 7:30 p.m.

Dues are now payable to the club treasurer, Mildred Taylor. Fees are $2 for a family for the entire year.

CRA Hams Will Tour Navy Radio Station

CRA Radio Club members and guests tomorrow evening (Feb. 1) will tour the U. S. Navy Radio Receiving Station in Imperial Beach.

The group will meet at 7:30 p.m. at the entrance to the station. Additional information can be obtained by calling Alex Halyburton, program chairman, ext. 1846 KM.

A Student, Too

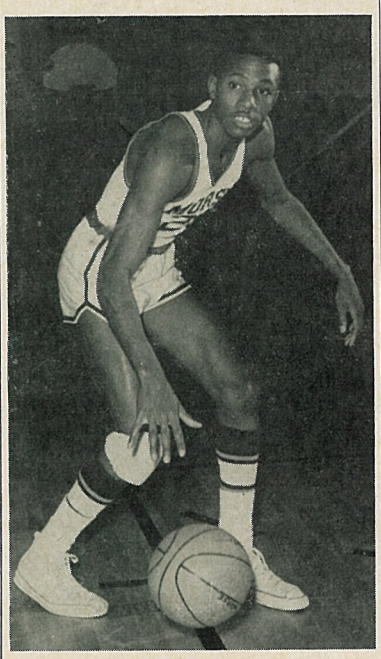
Convair Son Among Nation's Most Promising Hoop Stars

One of Southern California's prep basketball stars "most likely" to follow in the steps of Lew Alcindor and Wilt Chamberlain is Monroe Nash Jr., 6 ft. 4 in. son of two Convair division employes.

Young Nash, 18, a senior at Morse High in San Diego, scored 288 points in his first 12 games this season — a 24-point average — and is listed among the nation's top 100 prep cagers.

He already has received scholarship offers from 40 colleges and universities and an inquiry from the U. S. Military Academy —but hasn't yet selected his college of choice.

Justifiably proud of their youngest son and prospective professional player is Monroe Nash Sr., a plastics fabricator in Convair's Dept. 454-0, and his wife, Bennie, Dept. 250-4.



HIGH POTENTIAL — Monroe Nash Jr., son of two Convair employes, is one of nation's top high school basketball stars.

Monroe Jr. was San Diego's top returning California Interscholastic Federation scorer this year.

As a junior at Morse last year, he was the sixth leading high school scorer in the nation, dropping 567 points into the basket for a 21 point-per-game average and taking 447 rebounds.

He was selected for the "All CIF" and "All Eastern League" teams. He also won "most valuable player" honors in the El Centro Elks Tournament and set two new tournament records for highest game score (31 points) and most total points in four games (97).

Young Nash is "on the ball" when it comes to studies and other extra-curricular activity, too.

He has a 3.0 grade point ("B") average and is senior class president, Lettermen's Club president, and Associated Student Body Council member, and a teacher's aide at Wright Brothers Junior-Senior Continuation School.

The young hoop star first learned basketball fundamentals on a Hi-Y team at Memorial Junior High while in the eighth grade and the following year received the YMCA's Frank Galindo Memorial award for outstanding sportsmanship **(GD/NEWS, July 7, 1965).**

Young Nash's father stands 6 ft. 2½ in. and played "a little basketball" in his high school days in Texas. Two of Monroe Jr.'s three older brothers also played high school ball.

Jim Matlock and Bill Wolfe Low in Golf at Cottonwood

Jim Matlock and Bill Wolfe shot low scores in this month's CRA golf tourney which drew a field of 154 to the new Cottonwood course over the weekend of Jan. 20-21.

Matlock (Dept. 005) held low gross score with a 68. Wolfe (Dept. 002) shot a 56 for low net.

Bill Matlock (Dept. 057) topped first flight with a low net of 61. John Doggett (Dept. 595) was runner-up with a 63. Low gross honors went to Al Reiter (Dept. 015), 72. Jerry Swarts (Dept. 149) and Richard Tobias (Dept. 511) tied for second with 75s.

Winners of the second flight were: D. L. Schweitzer (Dept. 400) low net, 66; D. D. Dimmitt (Dept. 130-1), second, 67; Ed Hansard (Dept. 587) and O. L. Hunley (Dept. 400) tied for low gross with 84s.

Third flight winners were Jim Duffy (Dept. 401), low net, 67; Stan Brown (Dept. 015), runner-up, 69; Clay Hassell (Dept. 130), low gross, 93; Eric Torp (Dept. 191), runner-up, 95.

Fourth flight (guests and those without handicaps): Al Bauer (Dept. 015) and C. H. Stadler (Dept. 115) tied for low net with 61s; Chuck Matlock, guest, low gross, 75; Andy Simington (Dept. 059), runner-up, 79.

Cyclists Hold Award Dinner

CRA Bicycle Club awarded its 1967 grand prize trophy to Myke Dickey, club president, at its first annual awards banquet Jan. 20 in the Town and Country Hotel. Dickey had accumulated 1,005 miles on club-sponsored rides during the year.

Other trophy winners were Joe Olander, best 50-miler; Cy Campbell, best 25-miler; Max Sturman, best Sunday rider; Dick Gilbert, men's event leader; Marilyn Dickey, women's event leader; and Rick Lukens, youngster's event leader.

Al Brown, program chairman, was master of ceremonies.

Fifty-three members of the club pedaled more than 13,000 miles on club rides last year. Twenty-seven were awarded club jerseys for completing more than 200 miles each. Nine logged more than 400 miles and three more than 700 miles on club-sponsored rides.

Location Changed For Wives' Lunch

Location of next month's luncheon, scheduled by Convair Wives Club for Feb. 21, has been changed to Sir George Smorgasbord on Balboa Ave. near Convoy Street.

Reservations may be made through Fran Thompson, 278-1942; Anita Klepach, 264-1013; or Flora Loftin, 276-4270. Cost of the noon luncheon is $1.60 each.

Mrs. Klepach and Marge Allen are luncheon hostesses.

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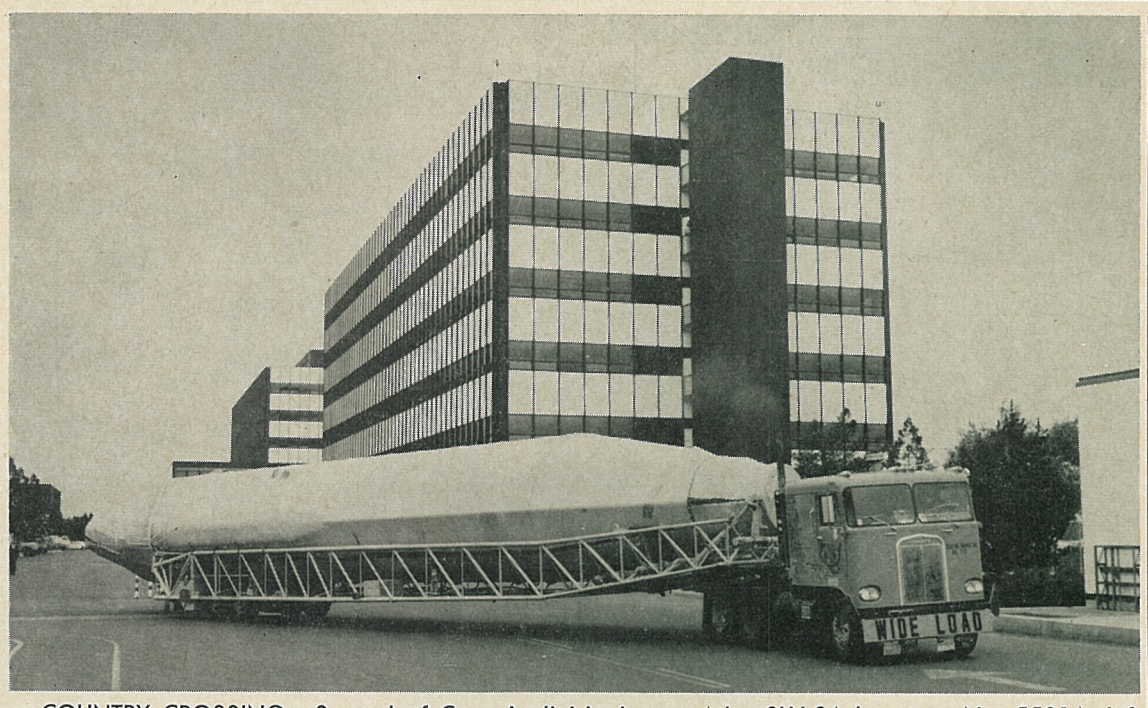
Call LF Ext. 511 For Tee Times

Starting times for CRA golf tournaments may be reserved by calling a new extension, ext. 511, at Lindbergh Field instead of the CRA Headquarters, said Del Dimmitt, commissioner.

Sign-ups for the February tourney start tomorrow (Feb. 1) and will continue through Feb. 14.

The tourney will be Saturday and Sunday, Feb. 17-18, at Rancho de los Penasquitos. Tee-off times start at 7:30 a.m.

All who sign are urged to keep their assigned starting times. About 30 failed to show at the January tourney. Unless all starting times are filled it is difficult to reserve courses, explained Dimmitt.



COUNTRY CROSSING—Second of Convair division's new Atlas SLV-3A boosters, No. 5501A, left Kearny Mesa plant Jan. 16 on cross-country truck trip to Cape Kennedy.

GD Corrective Action Panel Will Make Report in March

Members of a General Dynamics' Corrective Action Panel met Jan. 10-12 in San Diego to begin work on a report that will contain recommendations for establishment or improvement of division quality control corrective action systems.

Attending were A. P. Alaimo of Electronics-Rochester (chairman), Blake Bailey of Fort Worth, R. W. Rands of Pomona, W. W. Wilimek and G. H. Schwab of Canadair Ltd., William Laughton of Quincy, and H. H. Mishler of Convair.

The group visited Convair's Kearny Mesa plant Jan. 10 for a presentation and tour of quality control areas. Sessions the following two days were at the Half Moon Inn.

Members of the panel have been reviewing corrective action systems used by various General Dynamics' divisions and formulating recommendations and guidelines for such systems to insure meeting contractual requirements and good management practices.

The group's final report is scheduled to be presented to the General Dynamics' Quality Panel in March.

Various corrective and preventive action quality control methods will be outlined. Recommendations for forms, flow charts, reports to management, and data storage and retrieval will be included in implementation guidelines.

The Corrective Action Panel had met previously last year at Canadair Ltd. and Groton, Conn., with subgroups meeting in Fort Worth and Boston.

Complex Electronic Unit Built; Automatic Soldering Put to Use

Convair division has designed and recently completed fabrication of a complex electronic unit under a letter contract from Gulf General Atomic and for ultimate use by the Air Force Space and Missile Systems Organization.

The 3x6-foot unit contains more than 26,000 semiconductors, 1,000 printed circuit boards and 10,000 feet of "harness" wiring. Components included have a total value of more than $600,000.

A "quick reaction" approach was used in designing, fabricating and testing the unit within a four-month period. Preliminary design began Sept. 12 and the unit was delivered Jan. 11.

Clark Hay of Dept. 551-0 was program manager; Leonard Marks supervised Dept. 551-4 personnel who handled design; Ben Bodnieks, Dept. 551-4 leadman, did much of the basic design and coordinated production activity; and Frank Berry, Dept. 780-2 foreman, was in charge of fabrication.

A new paper-tape-controlled automatic reflow solder machine, developed previously under company IRAD funds, was used for the first time on a major project for soldering parts on printed circuit boards for modules in the unit.

More than 45,000 leads on 150 of the 210 modules for the unit were soldered by the machine with the solder head moving automatically from one point to the next, soldering from two to seven leads simultaneously.

Other modules with as many as 1,000 leads were soldered by regular flow-solder machines. Soldering of other selected components was accomplished by hand-solder methods.

"Fabrication of components was automated as much as possible because of the limited time we had in which to complete the project," Hay said. "We were extremely pleased with the total result—and with the quality of soldering accomplished by the automatic machine."

Design was complicated by the large number of components to be integrated. Special design techniques were used for routing leads for each of the components to conserve space.

Art Mason, a senior electronics engineer in Convair's Dept. 551-3, has been assigned to support a test in which the unit will be used.

Five Patents Issued To S-C Inventors During Last Quarter

Five patents were issued to employes of Stromberg-Carlson Data Products in the last quarter of 1967.

Alexander Bell, senior electronics engineer, was issued a patent on a self-aligning electron gun on Oct. 24, and a patent on a slotted cylinder tubular support for electron gun electrodes on Nov. 21. Both inventions are used in CHARACTRON shaped beam tubes made by Data Products.

Fred Hamann, manager of research, was issued a patent on an astigmatic lens arrangement for cathode ray tubes on Oct. 24.

Bevan Johnston, design engineer, was issued a patent on a device for contact heating of moving sheet material on Oct. 24. The invention is used in the S-C 3070 Electronic Printer.

Charles Corpew, design specialist, was issued a patent on an electron gun construction providing variable beam size on Nov. 21.

Convair Earns More Praise For Surveyor

Convair division recently received additional commendation from NASA officials for its role in the Surveyor program.

Homer E. Newell, NASA associate administrator, in a letter to Grant L. Hansen, Convair vice president-launch vehicle programs, said:

"The successful Surveyor VII mission, which concludes the initial automated phase of lunar exploration, is an occasion for expressing gratification in the performance of the operational Centaur which Convair developed under contract with NASA's Lewis Research Center.

"The availability of a launch vehicle using the high specific impulse associated with hydrogen-oxygen technology opens the way to consideration of missions requiring high velocity. Convair can share satisfaction in having a role in developing this important launch vehicle technology."

John E. Naugle, NASA associate administrator for space science and applications, also in a letter to Hansen, said:

"I should like to extend heartiest congratulations to you and the General Dynamics Convair Centaur team for yet another excellent performance during the Surveyor VII mission. The launch within one second of the planned launch time and the injection accuracy attained speak highly of the performance of all involved in the operation.

"We are particularly pleased to note that this launch completes a perfect seven-out-of-seven record in support of the Surveyor Program. Please thank all members of the Centaur team for their efforts which have contributed so much to our lunar exploration program."



"BLIND" WRITING—Sandy Strike practices daily during lunch period on borrowed Perkins Brailler Transcriber machine. She plans eventually to help in transcribing text books and teaching material for use by sightless persons in Pomona Valley area.

Good Works

Typist Learning New Skill To Help Her Help the Blind

When Sandy Strike (Dept. 3, Pomona division) completed a typing test recently she couldn't read what she had typed.

However, it was understandable. She was typing with a Perkins Brailler Transcriber machine and the test was to find out how accurately she had typed the original material, which the machine transcribed into Braille, the "written" language of the blind.

Braille is a combination of raised dots which express sounds, much as shorthand expresses words and sounds with lines and curves.

Sandy is a third of the way through a course of training in operating the transcriber and when graduated will be qualified to transcribe textbooks and other material as a volunteer worker for the Pomona Valley Transcribers Guild. Involved in the course are tests which are graded by sightless readers. An "A" paper is a real accomplishment.

When she first became interested in the enterprise she consulted Mrs. Rose Kelber, head of the Guild, and learned that with only about 40 qualified transcribers in the area there is little time for material other than textbooks. Sandy decided to volunteer her services.

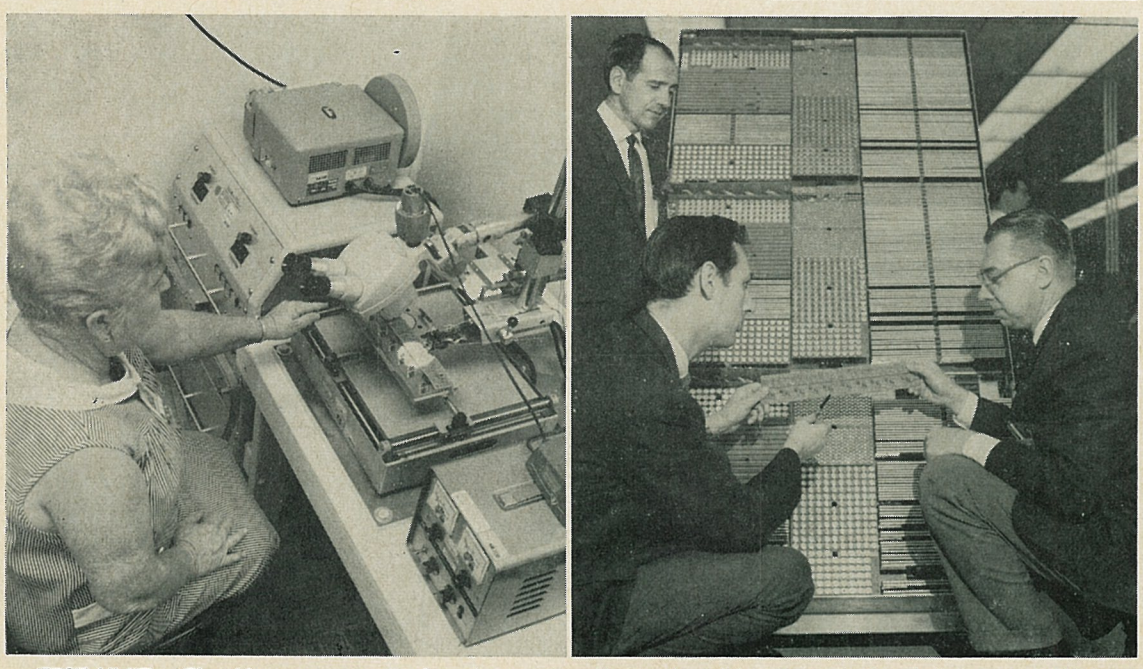
Using a machine loaned by the Guild, Sandy began her training last October.

"Practice time was a problem but that was solved by using lunch periods and 15 minutes daily while waiting for my husband, Robert, who is in engineering," she reported.

Operating the transcriber is a far cry from pounding a typewriter. There are no symbols or letters on the keyboard and combinations of keys must be pressed to achieve a certain sound.

"It's a little like simple chording on a piano, but figuring out the right combination by ear is the problem," Sandy said.

While continuing to use the borrowed machine, Sandy is saving Blue Chip Stamp books to acquire one for her own use. Any who wish to join in the charitable effort to help the sightless may leave stamp books with division security guards who will see that they are safely delivered. Any extras will go to the Guild.



TEST UNIT—Checking component for electronic unit produced by Convair for delivery to Gulf General Atomic, in right photo, are Frank Berry of Dept. 780-2 (standing), Leonard Marks and Ben Bodnieks (right), both of Dept. 551-4. In left photo, Verna Ascuitto, Dept. 780-1 electronics assembler, operates new automatic reflow solder machine used.

Savings and Investment Plan Will Be 'Open' During February

General Dynamics employes are reminded that Feb. 29 is the next deadline for enrolling or making changes in the General Dynamics Savings and Stock Investment Plan. Applications made in February will become effective at start of the second calendar quarter on April 1.

Employes with a year's service or more may enroll 30 days prior to beginning of any calendar quarter. The same deadlines apply to making changes in existing individual plans.

Applications are available from employe services outlets at all plants.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 4 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, February 14, 1968

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

Q — We apparently have different policies for hourly people within the Corporation and even within Convair. Convair uses time clocks while Stromberg-Carlson and Electronics at San Diego do not. At Kearny Mesa Convair hourly people must clock out to leave the plant for lunch, while at Lindbergh Field and Plant 19 they do not. Why?

A — As a result of your question, lunchtime clocking out practices at Kearny Mesa were re-examined and the requirement has been eliminated, making policies consistent with those at Lindbergh Field. Thank you for pointing out the inconsistency. As for Electronics and S-C, Electronics uses time clocks and their policies are the same as Convair's. S-C recently eliminated clocks and put into effect a system whereby supervisors keep track of time. This is possible where only approximately 400 hourly employes are involved but would not be practical at Convair with 8,100 hourly employes.

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Q — Last spring I received a report on the status of my Savings and Stock Investment Plan account. This year I would like to see a report that makes the "units" understandable, and which shows profit and loss for the year. Is this possible?

A — Bankers Trust Co. of New York City, trustee for the Plan, will make its annual report to individuals soon. This will show the amounts you have invested, the amounts General Dynamics has invested, and total value as of Dec. 31, 1967. As for the unit system, an overly simplified explanation here might be misleading. It is suggested you obtain a copy of the Plan brochure, or call at employe services for a personal explanation.

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Q — Valuable time is lost because our long distance lines are heavily taxed and it is difficult to get through to other divisions (particularly Fort Worth). Shouldn't we consider ways to improve our system?

A — Regarding Fort Worth specifically, the division is adding four switchboard positions, which should alleviate the problem. When a call is urgent and our regular lines are in use, ask the Convair operator to use commercial service. As for the future, General Dynamics expects by summer to have in operation a system by which stations at all divisions can be dialed direct, without going through an operator.

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Q — Why are regulations concerning many Convair benefits designed to penalize the person who has the courage to terminate for academic improvement or to gain broader experience elsewhere, both of which become additional assets to the company upon his return?

A — Convair's best interests are served by encouraging employes to stay with the company, thus avoiding costs of recruiting and training replacements. However, academic improvement is certainly encouraged, too, through tuition refund, irregular work week and educational leaves. Educational services can provide counseling.

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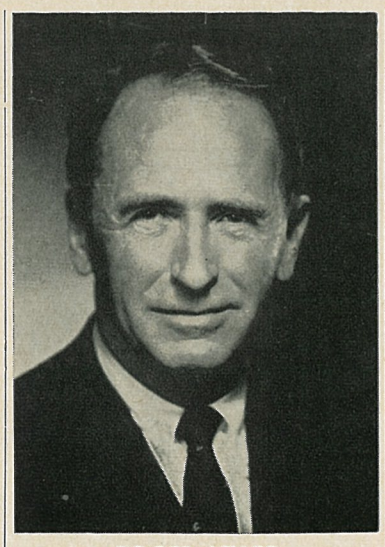
Q — Does Convair still assist writers of technical articles, help them get published, and pay the writer $150 on publication?

A — The Writers Award program was discontinued in 1963 when an overall program was put into effect to encourage employe participation in technical and professional societies. In lieu of the award, a writer is relieved of his normal duties and given time to prepare his paper. If the paper involves presentation at a meeting his trip is company-paid. Administrative services (524-0) arranges editorial assistance and helps get papers published or on programs for presentation. Assistance also is given in obtaining security clearances, art production and duplication. Contact D. H. McCoy.

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Q — Why does Convair pay postage on matter sent to Fort Worth and Lockheed pertaining to F-111 and C-5, when similar matter mailed from those points arrives "government postage paid"?

A — We shouldn't. F-111 and C-5 correspondence qualify for use of indicia ("government postage paid") and it is the responsibility of originators to make use of it. Procedures for obtaining proper envelopes, etc., are described in CSP B-35. Thank you for making this point. It is important that this be known to all originators of mail involving contracts where we have this privilege.



ROGER LEWIS

Roger Lewis Heads Plans For Progress

Roger Lewis, president and board chairman of General Dynamics Corporation, has been named chairman of the Plans for Progress Advisory Council. Lewis succeeds Charles E. Spahr, president, the Standard Oil Co. (Ohio) who served for the past two years.

Lewis was appointed by Vice President Hubert H. Humphrey, who said: "I am pleased indeed that a business leader of the stature of Roger Lewis has agreed to give us the benefit of his broad experience. I feel certain he will carry on admirably the work of the Plans for Progress Advisory Council that has made such strides under the leadership of Charles Spahr during the past two years."

Plans for Progress is the National voluntary equal employment opportunity program of American business. Its membership is comprised of 416 major companies which employ more than 10 million persons.

General Dynamics has been a member of Plans for Progress since November, 1961.

Speaking to some 800 businessmen Jan. 23 in Washington, D.C., representing companies participating in Plans for Progress, Lewis cited the important role that the six year old organization has played as a bridge between government and disadvantaged minorities.

Assessing the gains made to date, Lewis said, "On our sixth birthday, we should be aware, but not discouraged, by the fact that we may have gotten a lot further with plans than we have with progress."

Further progress, Lewis said, depends on increased communications—in all directions. Information about equal employment opportunity, he said, must flow "upward to senior officers, presidents, chairmen and boards of directors. They can do a great deal

(Continued on page 5)

Make Plans Now For Disneyland

Convair Management Club has leased Disneyland for five hours March 30 for the fourth annual General Dynamics' family party.

Tickets at $3.75 each go on sale this week at employe services offices, the CRA Clubhouse and designated offices.

Don Evanson, planning committee chairman, said the single admission charge will cover all attractions and parking. Round-trip bus transportation from San Diego also will be available at $3.25 per person.

1967 Net Sales Show Increase

Consolidated net sales of General Dynamics Corporation and subsidiaries for the year ended Dec. 31, 1967, were $2,253,336,000, Roger Lewis, president, reported. That compares with net sales of $1,796,990,000 in the preceding year.

Net profit for the year ended Dec. 31, 1967, was $57,026,000, equivalent to $5.46 per common share. In the prior year, net income had been $58,407,000, equivalent to $5.59 per common share. There were nonrecurring capital gains from the sale of securities in both years: $4,452,000 in 1966, and $5,737,000 in 1967.

Nonrecurring gains in 1967 do not include potential gains from the sale of the General Atomic division, since contingent liabilities connected with that sale make it impossible to determine an exact amount of gain until much later in 1968.

Exclusive of extraordinary gains, net income from operations in 1967 came to $51,289,000, equivalent to $4.91 per common share. That compares with 1966 net income from operations of $53,955,000, equivalent to $5.16 per common share.

The failure of earnings to keep pace with the increase in sales, Lewis said, was due to two main factors.

The first was greater-than-anticipated costs in marine operations.

"Most of our marine work," Lewis said, "for both surface ships and submarines, is currently on a firm fixed-price basis, awarded in a highly competitive atmosphere, for ships which take several years to construct.

"Concerted effort on the part of both the Navy and ourselves to improve the quality of military vessels has tended to increase the cost of both types.

"In addition, the buildup of facilities and manpower over the last two years at our surface ship facility has caused extra expense.

"We have, therefore, written off extra costs anticipated to complete current contracts, some of which will not be completed until 1969 to 1970.

"In another field of operation," Lewis said, "the research, development test and evaluation phase of the F-111 program—the first major technological development undertaken on a fixed-price incentive contract—turned out to be less profitable than expected. Work on the production contract is in the buildup phase and we are, therefore, booking only modest profits on this large contract at this time."

McNamara Announces Plans For F-106 Mod

Defense Secretary Robert McNamara last week announced plans to modify the Convair-built F-106 interceptor for U. S. air defense against manned bombers in the mid-1970s.

Under the plans announced by McNamara, more than 200 of the F-106 Delta Darts now in service would be equipped with new electronic systems and undergo some structural modification to accommodate new air-to-air missiles.

Designated the F-106X, the modified interceptors will fly at Mach 2 and have a range of more than 1,500 miles and a ceiling above 50,000 feet.

In commenting on the McNamara announcement, Jack L. Bowers, Convair general manager, said a request had not yet been received from the Defense Department for a proposal on development of the F-106X.

"As builder of the F-106, the company is very interested in this new development and will respond

(Continued on Page 2)

Fagan Succeeds Daly; Latter Goes to Quincy

Robert G. Daly, manager of operations at Convair division's Kearny Mesa plant since last June and a veteran Atlas test conductor and launch operations manager, has been named works manager at General Dynamics' Quincy division effective Feb. 26.

His position at Kearny Mesa will be filled by Donald L. Fagan, Convair base operations manager at Vandenberg AFB, Calif., since 1963.

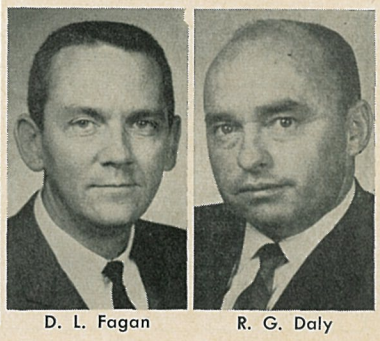
As works manager at the Quincy shipyard in Massachusetts, Daly will have more than 6,000 employes under his direction and will be responsible for improvement of operations, procedures and economics on a variety of shipbuilding programs.

Daly joined Convair as an associate engineer in 1956, was responsible for development of Azusa transponder checkout equipment in 1957-58, and held flight test and senior flight test engineer, assistant test conductor and test conductor positions at Warren AFB, Wyo., and Vandenberg AFB from 1958 to 1962.

He was launch operations manager at Vandenberg from August, 1962, to July, 1963, chief of support field modification directing the efforts of 2,400 personnel assigned to Atlas E and F-series site modification teams at Strategic Air Command missile squadron bases from July, 1963, to September, 1964, and Convair program manager for the maneuverable ballistic re-entry vehicle (MBRV) program until December, 1964.

Daly was factory manager responsible for Atlas assembly and checkout from December, 1964, to December, 1965, manager of manufacturing operations for as-

(Continued on Page 8)



D. L. Fagan R. G. Daly

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Feb. 1 and Feb. 15.

Thirty-year: Dept. 401, W. H. Poschman; 420, G. E. Rolston; 597, F. Machado Jr.; 975, H. F. Hampy.

Twenty-five-year: Dept. 015, G. M. Calahan; 027, G. H. Wilson; 031, C. Mendoza Jr.; 053, A. L. Conrad; 146, J. E. Patterson; 149, D. T. Espinosa; 759, L. L. Reed; 761, R. G. Kinder; 831, H. H. Miller; 840, E. L. Sylvester.

Twenty-year: Dept. 002, G. V. Ricks; 015, C. Brown; 016, J. D. Godwin-Austen; 059, P. C. DeBaca; 144, W. L. Burkhalter; 193, Annabelle E. O'Brien; 195, D. S. Lauder; 761, D. F. Wescott.

Fifteen-year: Dept. 144, W. E. Dudley; 196, Mary A. Branche; 250, W. T. Hancock; 401, H. F. Davis, H. B. Owens; 420, R. J. Welsh; 515, K. Watkins; 517, H. C. Adams Jr.; 518, Coral Brack; 566, R. Young; 572, Stella R. Njos; 585, L. G. Barbee; 835, M. A. Wiltse; 962, J. C. Stell; 966, W. E. Pfanner; 985, G. F. Zwicker.

Ten-year: Dept. 005, T. E. Kerr; 130, R. Mendoza; 250, R. T. Bianco, J. C. Blanchette, W. J. Webb; 401, K. C. Gaeth; 524, J. M. Edwards; 542, B. H. Hoerl; 574, Patsy E. Melson, N. F. Peters; 579, G. A. Stewart Jr.; 596, J. A. L. Thomson; 598, C. L. Hyde; 731, R. H. Winder; 732, J. L. Hooks; 763, M. M. Parsons; 780, Ethel M. Williams; 831, Shirley Brecht, A. Sansome; J. D. H. Cash; 840, Helen I. Peacock; 964, K. W. Fitch, C. K. Perkins; 979, A. Allawas, C. Amedeo, V. F. Charder Jr., J. F. Dean, V. H. Duduit, R. W. England, J. N. Freeman, P. V. Fueri, E. C. McClellan, Elsie R. Parchment, W. A. Wilson; 986, Helen A. Pence; 988, D. W. Short.

STROMBERG-CARLSON

Ten-year: Dept. 8510, P. L. Haack.

Awards

CONVAIR

Employe Suggestion awards approved for the week ending Jan. 26.

Dept. 015-0, J. Baptista, A. W. Beckman, A. J. Capuccini (four awards), J. E. Lemon, M. Loftus, L. W. Tracy (three awards); 027-0, A. I. Cox, J. C. Wilson, E. E. Yturralde; 031-0, H. O. Schroeder; 045-0, L. F. Pendarvis (two awards); 059-5, T. A. Anderson; 142-1, L. E. Johnson, D. E. Palmer, R. N. Rogers; 143-1, J. J. Murphy 143-6, R. R. Reekers; 144-0, J. F. Choitz; 250-0, D. E. Belchamber, W. R. Everitt, M. E. Nicolet, W. C. White; 250-1, J. S. Poschman; 250-3, J. B. Evans; 460-0, C. A. Barnett; 562-2, E. H. Smith; 733-0, A. P. Johnson, R. E. Reeves, J. A. Rehm; 979-1, A. Majaika; 979-2, W. E. Morton; 979-4, J. E. Garrett.

Employe Suggestion awards approved for the week ending Feb. 2.

Dept. 001-0, M. Preite, C. R. Thompson; 002-0, C. O. Owens, W. T. Roth Jr.; 005-0, S. Gonzalez; 015-0, L. S. Boland III, A. J. Capuccini, L. K. Lee; 027-0, R. J. Dunn (three awards), J. R. Myers (three awards), L. F. Pendarvis; 059-3, G. J. Needles; 130-1, W. E. Fowler; 130-8, B. J. Jones; 149-0, B. J. Moore; 250-1, D. C. Daines, H. C. Wilson; 250-3, B. A. Rusk; 250-5, J. Burrows, C. Larabee; 401-5, L. O. Smith Sr.; 454-0, R. L. Freeman; 562-1, M. G. Williams; 572-2, H. Urbach; 574-2, B. Fossum; 759-0, G. W. Stacy Jr.; 810-1, J. L. Kressin; 840-1, E. J. Ward; 850-0, E. E. Hixson; 954-1, D. A. Birch; 979-1, C. L. Gross, V. V. Jones.

Papers Presented

CONVAIR

KING—C. D., Dept. 592-0. "Preventing Microbiological Contamination of Potable Water in Long-Duration Space Missions." NASA Langley Research Center Seminar on Water Quality Standards for Long Duration Space Missions, Jan. 29-30.

LANGFORD — G. J., Dept. 491-0. "Plasma Welding is Faster, Better, and Cheaper than Conventional Methods." W. A. RODEN, Dept. 491-0. "Electron Beam Welding — Some Aerospace Production Applications." American Society of Tool and Manufacturing Engineers Meeting, San Diego, Jan. 25.

NEU—J. T., Dept. 596-0. "Determination of Reflected Light from Space Vehicles for Visibility Computations." R. A. LYNCH, Dept. 581-5. "Propulsion for Lifting Entry Vehicles." KEN S. COWARD, Dept. 581-5. "Propulsive-Lift Landing Aid for Entry Vehicles." AIA/6th Aerospace Sciences Meeting, New York, Jan. 22-24.

PETRE — J. W., Dept. 506-0. "The Monster Buoy—A Progress Report for 1967." R. F. DEVEREUX, Dept. 506-5. "Real Time Oceanography: The Monster Buoy." ISA/Fourth National Marine Sciences Instrumentation Symposium, Cocoa Beach, Fla., Jan. 22-26.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7. Monday, Feb. 19, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 14 auditorium. Tuesday, Feb. 27, 8 a.m. and 4:30 p.m.

AF Plant 19: ext. 491 LF, Bldg. 3, 1st mezz, Col. B-14 conference room. Thursday, March 7, 8 a.m.

PROFESIONAL/TECHNICAL

PROGRAMMED SELF STUDY—A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

General Dynamics News

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Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Retirements

CONVAIR

AVITABLE—Ralph, Dept. 141-4. Seniority date Dec. 29, 1952, retired Jan. 31.

BAX—Gerard, Dept. 142-1. Seniority date May 15, 1952, retired Jan. 31.

BUSBY—James L., Dept. 405-0. Seniority date Oct. 7, 1935, retired Jan. 31.

COOK—Lisle E., Dept. 732-0. Seniority date Jan. 11, 1944, retired Jan. 31.

DEYLE—Howard E., Dept. 761-0. Seniority date Nov. 7, 1944, retired Jan. 31.

GAMSON—Bernard S., Dept. 170-1. Seniority date May 21, 1956, retired Jan. 31.

KOSER—Robert R., Dept. 516-0. Seniority date Sept. 20, 1954, retired Jan. 31.

LaBEAUX—Raymond E., Dept. 978-3. Seniority date Oct. 19, 1950, retired Jan. 11.

McPHERSON—Robert J., Dept. 566-3. Seniority date Feb. 26, 1951, retired Jan. 31.

O'DONNELL—Bertha C., Dept. 834-1. Seniority date Feb. 4, 1957, retired Jan. 31.

PHILLIPPI—Ralph L., Dept. 511-5. Seniority date April 27, 1939, retired Jan. 31.

THOMAS—Pauline D., Dept. 191-0. Seniority date Jan. 27, 1956, retired Jan. 31.

THOMPSON — Louise, Dept. 130-6. Seniority date Aug. 10, 1950, retired Jan. 31.

TIPTON—Griffin M., Dept. 193-3. Seniority date July 20, 1942, retired Jan. 31.

WHALEN — John A., Dept. 565-1. Seniority date July 2, 1956, retired Jan. 31.

WHARTON—Clarence E., Dept. 130-1. Seniority date March 1, 1957, retired Dec. 29, 1967.

WILLIAMS—Alfred Earl, Dept. 420-8. Seniority date Oct. 17, 1955, retired Jan. 28.

Rider-Driver

CONVAIR

RIDE WANTED—From El Monte Rd., El Cajon to Lindbergh Field. 7:00 a.m. to 3:30 p.m. Call Helen Moore, ext. 464 LF or (home) 444-0934.

RIDE WANTED—From La Mesa to Lindbergh Field. 7:00 a.m. to 3:30 p.m. Call Helen Oliver, ext. 626 LF or (home) 465-6730 after 7:00 p.m.

RIDE OR RIDERS WANTED—From Escondido to Lindbergh Field plant. Third shift, midnight to 7 a.m. R. L. Harr, ext. 1783 LF, or home phone 746-8810.

Personals

CONVAIR

My daughter and I want you to know that your kindness at this time is more deeply appreciated than any words of thanks can express.

Mickey Groomer
Dept. 954-3

Births

CONVAIR

NEUMANN—Daughter, Kristen Ann, 6 lbs. 8 oz., born Jan. 23 to Mr. and Mrs. Terry W. Neumann, Dept. 149-3.

Deaths

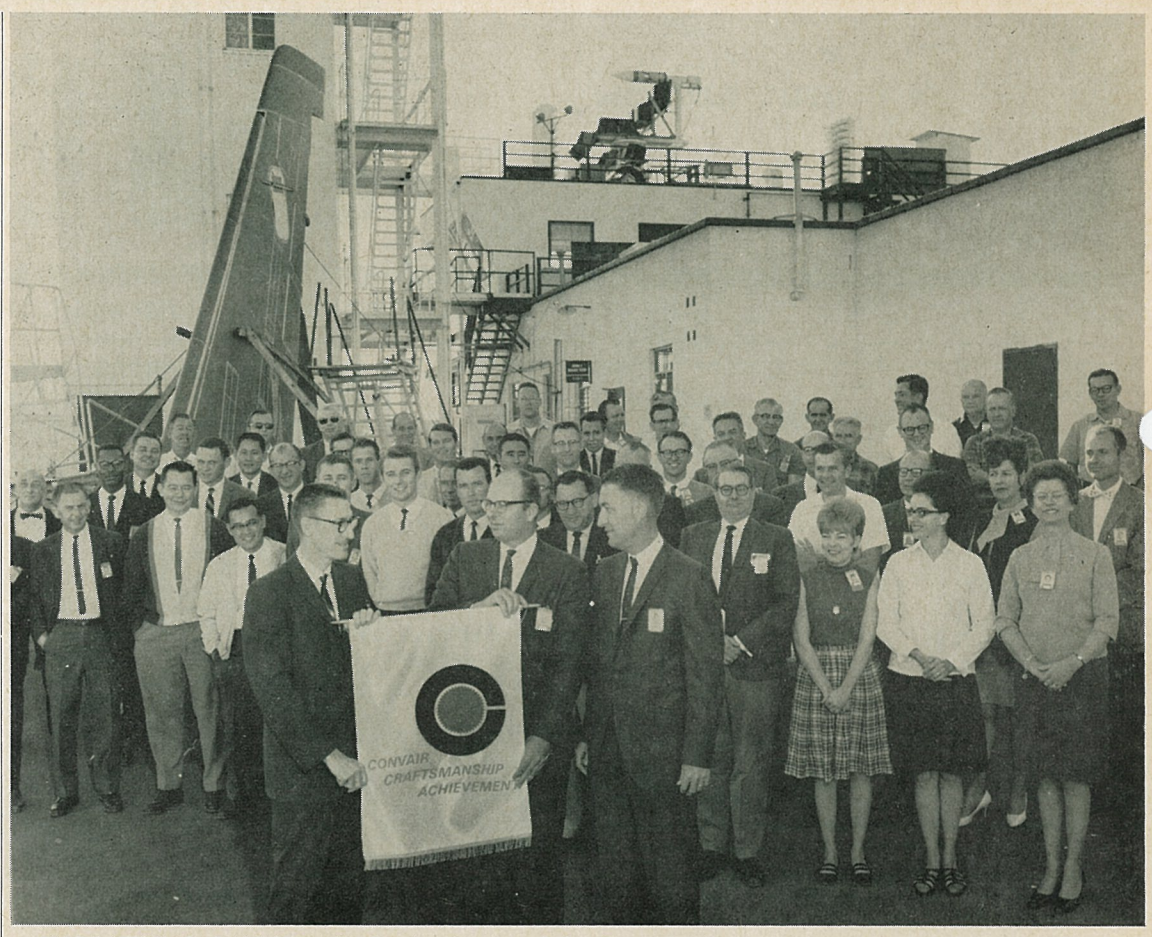
CONVAIR

RAMSEY—Duke, Dept. 031-0. Died Jan. 17. Survivors include wife, June.

WHITE—D. R., Dept. 170-1. Died Feb. 3. Survivors include wife, Marion.

ELECTRONICS-SD

NEEB—Philip, Dept. 425. Died Feb. 3. Survived by his wife, Charlene, a stepson, four sisters, and one brother.



ENGINEERING BANNER—F. D. Applegate, left, Convair director of product design, presents research and engineering department's fourth quarter Craftsmanship banner to M. M. Chazotte Jr. for antenna and microwave, Dept. 541-0, as Orison Wade, chief design engineer-electronics, looks on. Dept. 541-0 was chosen from 74 participating groups.

Antenna, Microwave, Dept. 541-0, Chosen For Quarterly Honors

Convair's research and engineering department has awarded its fourth quarter Convair Craftsmanship Achievement banner to antenna and microwave, Dept. 541-0.

Antenna and microwave personnel were selected for outstanding performance from among 74 R & E employe groups competing for the award. Research and engineering department staff members reviewed performance of the groups toward 238 separate goals and objectives in selecting the quarterly winner.

F. D. Applegate, director of product design, presented the banner to M. M. Chazotte Jr., supervisor, in ceremonies Feb. 1.

Work totaling more than $2 million in antenna, microwave and radome technology areas was performed by Dept. 541-0 last year in support of major Convair, Pomona and Electronics-SD programs.

Included was radome design work for Pomona division's Standard ARM missile program and some support work on telemetry antenna measurements for the Apollo Instrumentation Ships program for Electronics-SD.

Dept. 541-0 during the three-month period achieved goals of reducing the number of errors per engineering drawing to four and of keeping absenteeism to less than two per cent.

The department also achieved a 65 per cent resolution of work assignment plan (WAP) irregularities, submitted 20 cost reduction suggestions, assisted in acquiring new technology study contracts totaling about $60,000, and reduced time distribution card errors.

Chazotte said even more stringent goals have been established by the department for 1968.

Craftsmanship Awards Made

On-site awards of Convair departmental Craftsmanship Achievement Award banners for the last quarter of 1967 saw production control, Dept. 830-0, under Frank Robbins, sweeping Kearny Mesa operations. Production control won top honors every quarter of the last year.

Other winners were:

Lindbergh Field operations — administration and control, Dept. 059-0, W. R. Bruce, manager.

Research and engineering — antenna and microwave, Dept. 541-0, M. M. Chazotte, supervisor.

Reliability—procurement quality engineering, Dept. 144-1, R. J. Hendrickson. This was the second consecutive win for Dept. 144-1.

Finance—direct budgets, Dept. 194-0, B. J. Neal.

Launch vehicle programs — engine systems, Dept. 962-2, F. C. Taylor.

Material — Lindbergh Field plant procurement, Dept. 820-0, C. G. Keach, manager.

McNamara Announces Plans For F-106 Mod

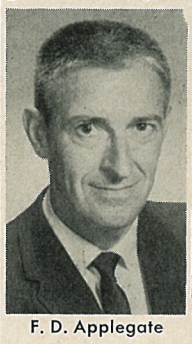
(Continued from Page 1)

to any such request," Bowers said.

"The F-106 is a mainstay of the Air Defense Command. With the modifications described by Secretary McNamara, it will certainly be a better interceptor. Its continued use for many years is possible because of the plane's rugged construction."

Bowers, in preparing to respond to an anticipated request for proposal, announced appointment of W. W. Fox, director of product design for Convair's research and engineering department for the past three years, as program director for the proposed F-106X program.

Fox, in his new position, reports directly to Bowers and will



F. D. Applegate



W. W. Fox

coordinate all division activity contributing to the F-106X effort.

F. D. "Dan" Applegate, former chief mechanical and structural design engineer in Dept. 509-0, succeeds Fox as director of product design.

Fox joined Convair as an engineering draftsman in 1939 and has held several flight test and project engineering positions. He became chief engineer in 1959, director of engineering in 1963 and director of product design in 1965.

As director of product design, Applegate reports to E. R. Peterson, vice president-research and engineering, and has responsibility for system engineering, structural design, mechanical design, design support, electronic systems, aircraft flight test and data evaluation departments.

Applegate joined Convair in 1939 as a detail draftsman and held several design group positions. He was a project engineer on F-102/106 and 880 programs from 1957 to 1960.

He became an engineering staff specialist in 1961, assistant program director for space boosters in 1962, chief of engineering design for a space launch vehicles project in 1962, an assistant program director in the space launch vehicles program office in 1963 and chief of design engineering (mechanical and structural) in 1966.

Toastmasters Club Awards Certificates

Three members of Convair Toastmasters Club 3745 were awarded "achievement for the advanced speaker" certificates Jan. 24 at the club's quarterly awards dinner.

They were H. L. Jensen Jr., Dept. 980-2; H. O. Story, Dept. 142-0, and J. A. DeShazo, Dept. 958-7.

The certificates were in recognition of each having prepared and presented 22 speeches in the Toastmasters' training program.

Bill Wise Will Head Industrial Engineering

W. E. Wise has returned to Convair division to head up the newly-formed industrial engineering organization, effective Feb. 5.

Wise comes to Convair from Corporate Headquarters where he was a staff member of the manufacturing and facilities services group since January, 1967. Before that he had been manager of management engineering at Electric Boat division where he transferred from Convair in 1963.



W. E. Wise

In his new position as manager of industrial engineering (Dept. 202-0), Wise reports to W. L. Van Horn, director of operations.

The reorganization has been effected to optimize the use of Convair's manufacturing resources, Jack L. Bowers, Convair general manager, said. Wise will be responsible for consolidating the industrial engineering efforts at all Convair plants.

Functions transferred to the industrial engineering organization are: facilities planning, crew-load and work measurement, factory methods and work measurement, material handling and packaging engineering, facilities engineering.

The organization now consists of facilities planning (202-1) under R. E. Bechtol; engineering facilities planning (202-0), S. Y. Johnson; industrial engineering projects (202-2), R. D. Marks; Kearny Mesa plant manufacturing methods (202-3), H. L. Williamson; Lindbergh Field plant manufacturing methods (202-4) V. A. Petricola.

R. L. Blount of Kearny Mesa plant planning and R. A. Calen of Lindbergh Field plant planning report to Bechtol.

A native of Boulder, Colo., Wise joined Convair in 1950 upon graduation from the University of Colorado with a BS in aeronautical engineering.

He held positions of test lab group engineer, chief of applied manufacturing research, chief industrial engineer, manager of resources engineering, and his last post, manager of industrial engineering, before going to Electric Boat.



VALUE PANEL—Attending recent General Dynamics' Value Control Panel meeting in San Diego, clockwise left to right, were H. P. Williams, Convair; Frank H. Bellew, Electric Boat; Lawrence F. Bowen, Quincy; E. D. Heller, Convair; Phil Harr, Corporate director of reliability, quality control and value control; C. W. Doyle, chairman, Fort Worth; Ralph Morse, Electronics-Rochester; Saul D. Lepen, Electronics-SD; Al Meadows, guest, Electronics-Rochester; Harlon D. Filloon, Pomona; Karl Mikelsons, Canadair; Q. R. Creasy, Fort Worth.

GD's Value Control Panel Meets, Establishes Objectives For '68

General Dynamics' Value Control Panel in a meeting Jan. 29-30 at Convair's Kearny Mesa plant in San Diego approved establishment of a value engineering "idea bank," established other 1968 objectives and assigned responsibility for several tasks that will aid the Corporation and its divisions in value control activities.

Attending were P. I. Harr, Corporate director of reliability, quality control and value control; C. W. Doyle Jr., chairman, Fort Worth; R. I. Morse, vice chairman, and A. L. Meadows II, Electronics-Rochester; Saul Lepen, Electronics-SD; Larry Bowen, Quincy; F. H. Bellew, Electric Boat; Q. R. Creasy, Fort Worth; Karl Mikelsons, Canadair Ltd.; H. D. Filloon, Pomona; and E. D. Heller, H. P. Williams and W. J. Ridge, Convair.

Four Air Force and Defense Contract Administration Services (DCAS) representatives were guest speakers. They were Frank King, Air Force Systems Command chief value engineer from Andrews AFB; Leigh Parker, value engineer for DCAS San Francisco, Los Angeles and Dallas regions; Ed Ristow, DCAS Los Angeles region value engineering monitor, and John Cianciarulo, DCAS plant representative's office value engineering monitor at Convair.

The Value Control Panel "idea bank" project, under development since last year, will use data processing equipment for storage and retrieval of brief catalogued information on value engineering methods used by each division that might be of future benefit to others.

Input will begin soon and first "runs" are scheduled this year. Computer input will be limited to a basic description, report reference number and name, address and phone number of originator. Morse will be in charge of the project with Bill Karas of Stromberg-Carlson assisting.

The present Value Control Panel charter is to be revised by Williams to conform to a standard format recently defined by the General Dynamics' Panel Planning Council.

Guidelines for application and implementation of value engineering in the development phase will be prepared by Lepen, Williams and Mikelsons.

Each division also is to submit statistical data on value engineering change proposals (VECPs) to give both the panel and the Corporate director better "visibility" of VECP activity and trends.

King described Air Force Systems Command (AFSC) organization with respect to value engineering and project responsibilities and emphasized support being given to VE program.

He said AFSC has a 60-day-turnaround goal for action on contractor VECPs, has a 55 per cent acceptance rate and is stressing improvement in VECP preparation by contractors as a means of increasing acceptance rates.

King said AFSC will issue a new VE regulation next month and has a $48 million VE savings goal for this year.

Parker, Ristow and Cianciarulo discussed DCAS value engineering functions at national, regional and plant level.

Doyle said the Value Control Panel, by bringing together VE representatives from various divisions for periodic meetings, is resulting in an interchange and cross-fertilization of ideas and implementation of projects that will benefit each of the divisions and the Corporation as a whole.

Members of the panel were welcomed to Convair by John D. Milling, controller.

SLV-3A Booster Readied For Launch of OGO-E

Convair division's first Atlas SLV-3A booster, No. 5602A, and an Agena second-stage vehicle are being prepared at Complex 13 at the Eastern Test Range for launch of NASA's Orbiting Geophysical Observatory-E.

OGO-E will carry a series of experiments for geophysical measurements of magnetic fields, the ionosphere, distribution and energy levels of energetic particles, radio propagation, very-low-frequency noise, interplanetary particles and atmospheric composition.

Data obtained is expected to provide a significant increase in knowledge of the outer-space environment and its potential hazards to manned space flight.

The OGO-E spacecraft and experiments will weigh approximately 1,288 pounds. The Atlas SLV-3A is 117 inches longer than the SLV-3 and carries an additional 48,000 pounds of usable propellants.

James L. Minos, Convair program manager, and a 13-man "tiger team" from Kearny Mesa are at Cape Kennedy this week for equipment assessment and flight readiness review.

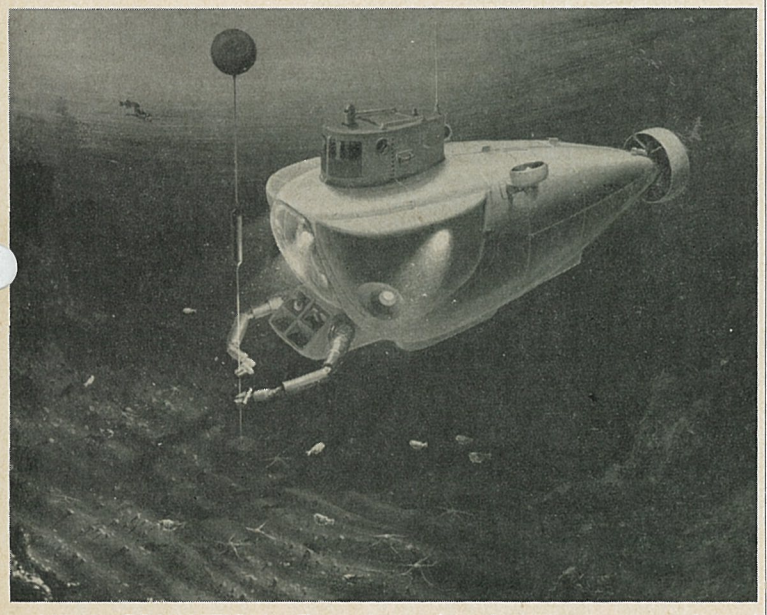
J. W. Ball is team captain and C. C. Campbell is equipment assessment chairman.

Other members of the team and areas of responsibility include: W. E. Evans, flight control (propellant utilization); F. F. Manning, engine systems; W. F. Holzer, pneumatics; N. J. Brown, hydraulics; Ted Shamshoian, electrical; F. L. Cook, telemetry/instrumentation and range safety command; H. E. Harper, flight control (autopilot); J. W. Taylor, reliability control; R. S. Stevens, structures (airborne and launcher); A. W. Wiest, reliability engineering (history jackets-mechanical), and B. H. Peyton, reliability engineering (history jackets-electrical).

Quality Assurance Director to Speak

Hugh Carlson, quality assurance director, Naval Plant Representative, Pomona, will be the speaker for a meeting tomorrow (Thursday) night of American Society for Quality Control, San Bernardino Section. His talk will be entitled "Quality Planning."

The meeting will be held at Di-Censo Restaurant in Upland with dinner at 7 p.m.



NEAR COMPLETION—Two research submarines, Autec I and Autec II, being built for U. S. Navy, are nearing completion at Electric Boat division. They will carry three-man crews. In emergency, crew can separate front section of craft and float to surface.

Liquid Carbonic's Sale To Gas Corp. Outlined

General Dynamics Corporation and Houston Natural Gas Corporation, Houston, reached agreement in principle this month on a plan under which Houston Natural would acquire by merger General Dynamics' wholly owned subsidiary, Liquid Carbonic Corporation.

Roger Lewis, president of General Dynamics, and Robert R. Herring, president of Houston Natural, said the transaction involved the issuance of 1,076,000 shares of a new convertible preference stock of Houston Natural and the assumption by Houston Natural of $49,700,000 of existing long-term debt of General Dynamics.

The new convertible preference would have an annual dividend of $2.25 a share, and would be convertible at any time into one share of Houston Natural common. The preference shares would be redeemable after five years at $52.50 a share, and would have a liquidating value of $50 a share.

General Dynamics is required by a 1966 Federal district court order to divest itself of Liquid Carbonic. The carrying out of the plan is subject to approval by the Department of Justice, to the negotiation of formal agreements and to the receipt of required tax rulings. The merger agreement will be submitted for approval to the stockholders of Houston Natural.

The plan provides that General Dynamics, as the owner of all the outstanding stock of Liquid Carbonic, would enter into a formal merger agreement with Houston Natural and would vote its shares for the merger, subject to the conditions of the agreement. On the merger, the Liquid Carbonic shares would become Houston Natural convertible preference shares on a one-for-one basis.

Prior to the effective date of the merger, General Dynamics would make a tax-free transfer to its share owners of its Liquid Carbonic shares, and the related right to receive Houston Natural shares, either by giving its share owners the opportunity to exchange General Dynamics shares for Liquid Carbonic shares on a basis to be determined, or by a pro rata distribution, or by a combination of both. Immediately after the merger becomes effective, certificates for Houston convertible preference shares would be distributed tax free to the holders of the Liquid Carbonic shares.

Lewis said that the transfer of the Liquid Carbonic shares to General Dynamics share owners, the conversion of the Liquid Carbonic shares into preference shares of Houston Natural, and the overall consummation of the plan would be subject to the receipt of a ruling that neither the company nor its share owners would incur any tax liability on the transaction.

In its fiscal year ended July 31, 1967, Houston reported gross revenues of $86,214,410 and net income of $10,207,433, or after payment of preferred dividends, $1.92 per share on 4,962,425 common shares outstanding. For calendar year 1967, Liquid Carbonic had sales of $83,600,000 on which it earned $3,750,000 after adjustment for interest on the debt to be assumed in connection with the merger.

Herring said: "Liquid Carbonic has experienced a growth in earnings over the past five years of approximately 100 per cent. We expect the company to continue its fine rate of growth."

Herring said that Houston Natural proposes to operate Liquid Carbonic as a wholly owned subsidiary with its present business, management and employes intact.

Electronics Division Expansion Near Orlando, Fla., Announced

General Dynamics has announced that it will build a 100,000-sq. ft. assembly plant in Seminole County, Fla., near Orlando, to accommodate expansion of its Electronics division operations.

Parker Painter Jr., general manager of the Electronics division, said that the plant will be used primarily for production of military and space electronics systems and components. He said that work currently on order exceeds existing divisional plant capacity in Rochester, San Diego and Orlando.

The new plant will be located on a 217-acre site about 12 miles north of Orlando, a short distance from the division's existing Dynatronics operation.

The two Florida plants will be a combined operation managed by Sam L. Ackerman, who transferred from division headquarters in Rochester and has been named general manager of all Florida operations. For the past three years, Ackerman was divisional vice president for programs and operations.

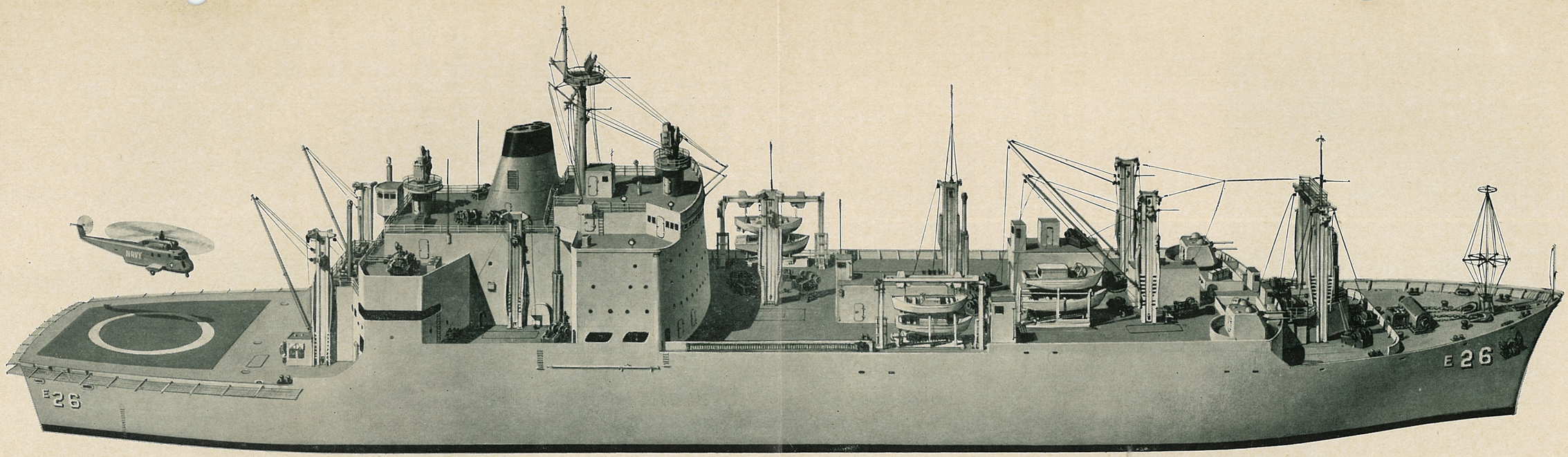
The new plant is slated for completion in mid-July. Approximately 1,000 persons are expected to be employed there during the first year of operation. Provision also has been made for expansion of the plant, depending on future business volume. The Electronics division now employs 600 people at its Dynatronics operation, and more than 6,000 in additional major facilities at Rochester and San Diego. Total divisional employment has climbed 14 per cent in the past year.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

CLYDE M. HOOPER (1942) from Convair division to senior quality control engineer, Electronics, San Diego; **JAMES H. KIRST** (1956) from Convair to Electronics, San Diego as design assurance engineer; **ROBERT I. KREISLER** (1954) from Convair to chief of design assurance, Pomona; **HERMON J. SUMNER** (1940) from Convair to senior quality control engineer, Stromberg-Carlson Data Products; **MICHAEL C. BADDERS** (1967) from Convair to Electric Boat; **WILLIAM E. O'BRIEN** (1959) from Convair to Pomona as senior reliability engineer; **FRANK J. LUKAS** (1951) from Convair to reliability specialist, Pomona; **J. E. GARDNER** (1967) from Pomona to project staff engineer, Quincy; **FRANK E. BERGER JR.** (1960) from Convair to Electronics, San Diego as cost estimator; **NORMAN D. VANCE** (1962) from Convair to design draftsman, Stromberg-Carlson Data Products; **ROBERT D. HALL** (1966) from Convair to Corporate Headquarters; **FRANK G. MARTINEZ** (1957) from Convair to design engineer, Stromberg-Carlson Data Products; **GEORGE G. BERGANT** (1954) from Convair to senior engineer, Electronics, San Diego; **EUGENE D. MISCIONE** (1967) from Convair to Stromberg-Carlson Data Products as associate engineer.



This is not just a ship. It's an ammunition depot for fighting ships—a marine system built by General Dynamics.

The 564-foot USS Butte is the first of a new class of ammunition ships for the United States Navy. Like all major systems, it started with a requirement.

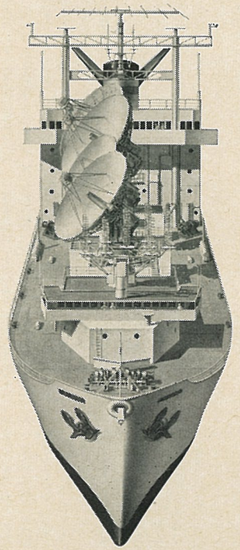
Its requirement is to provide quick replenishment of ammunition and missiles to ships at sea. It is equipped with a fast shuttle system which can supply ammunition to two other ships simultaneously while all three ships are under way. Helicopters can operate from the rear deck for long-distance deliveries.

The contractor for such a system must, first of all, understand the requirement. He must be able to design, and develop, and procure, and integrate whatever is necessary to build the total product that meets the requirement. His ultimate responsibility is to deliver a complete system that will work as it should when it must.

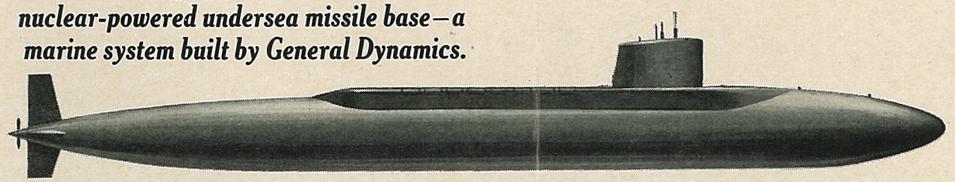
For 68 years, General Dynamics has accepted that responsibility.

GENERAL DYNAMICS

This is not just a ship. It's a spacecraft tracking station—a marine system built by General Dynamics.



This is not just a submarine. It's a nuclear-powered undersea missile base—a marine system built by General Dynamics.



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COST REDUCERS—Convair Management Club honors submitters of top Cost Reduction Proposals during last half of 1967, from left, G. E. Hovde, A. L. Deane, R. G. Daly, W. G. Lux, and, at far right, E. F. Strong. Others are Ad Mosco, club president, and second from right, Convair General Manager Jack L. Bowers, who presented awards. K. C. Lejman, December winner, was not present.

Daly's $1-Million Idea Leads Cost Reducers

Outstanding cost reduction efforts during the last half of 1967 were recognized at the January meeting of the Convair Management Club.

CRP winners rewarded by Jack L. Bowers, Convair general manager, were R. G. Daly, at that time manager of operations at the Kearny Mesa plant, for July; E. F. Strong, Dept. 579-0, August; G. E. Hovde, Dept. 195-2, September; A. L. Deane, Dept. 840-0, October; W. G. Lux, Dept. 144-1, November; K. C. Lejman, Dept. 967-9, December.

Daly has been credited with implementing a program which will save the division over $1 million.

Daly reduced operating costs by the implementation of a crew load program in the Centaur final assembly area. The crew load system is a work measurement tool affording management better production visibility and better cost control. Resultant saving by use of the system totaled $1,019,200.

Strong's CRP saved $66,960 by use of dummy pylons instead of production pylons in the F-111 static test program.

Hovde's application of ECP/TCP numbers saved $98,335 by clearer display of requirements during estimate, release, procurement, and audit cycles.

Deane's proposal that vendors perform CATCH (Component Assembly Teardown, Checkout and Handbook) inspection at their facilities instead of Convair doing the inspection saved $245,115.

Lux suggested compilation of contract requirements for quality and reliability into a "Contract Requirement Report" with a separate section for each contract to eliminate research through hundreds of documents for contract requirements or changes. Annual savings is set at $47,284.

Lejman's CRP saved $165,963 by use of surplus sub-carrier oscillators in the build-up of the RF-2 Telepak for the Centaur vehicle.

Each CRP winner received certificates for dinner for two at Mr. A's Restaurant from the Management Club.

Technical Papers Solicited by IEEE

Sam Ackerman, general manager of Electronics division's Florida operations, has been appointed to the executive advisory committee for the seventh annual convention of Industrial Electrical and Electronic Engineers Region III.

This year the convention will be held in Cocoa Beach, Fla., Nov. 18-20, and is being sponsored by the Canaveral Section of the IEEE.

Technical papers dealing with a wide range of scientific and engineering fields are being accepted now. Three copies of the full paper and three copies of an abstract, limited to 100 words or less, should be submitted to Technical Papers Chairman LaVergne E. Williams, Aerospace Corporation, P.O. Box 4007, Patrick Air Force Base, Fla., before June 1.

$8,250 in Donations Okayed by Con-Trib

Members of the Convair Con-Trib-Club Committee in a recent meeting allocated $2,500 to the YMCA for sustaining memberships, $2,500 to the Boy Scouts of America for sustaining memberships, $1,500 to the National Foundation for the Salk Institute, and $1,000 to the San Diego Symphony Orchestra Association for its youth and children's concerts program.

Upon recommendation of the Vandenberg AFB employes' advisory committee, the committee also granted $500 to Guide Dogs for the Blind, Inc., and $250 to the Family Service Center of Arroyo Grande.

Special Mention Accorded Boosters

Boosters were singled out for special mention at the Jan. 31 meeting of the Convair Management Club. Each received dinners for two at the Bronze Room in La Mesa.

Honored for their efforts in behalf of the club were Walt Vierra, Dept. 195-4, Booster of the Month for August of last year; Joe Mullen, Dept. 986-5, September; Jack Detweiller, Dept. 951-6, October; Ed Ford, Dept. 015-0, November; and L. O. McGriff, Dept. 101-4, December.

Convair Sons Earn 'Boy of Year' Honors

Two sons of Convair employes received the top "Boy of the Year" awards from San Diego Volunteer Bureau at its recognition day banquet Feb. 1 at the U.S. Grant Hotel.

They were Dan Greenwald, 16, son of James Greenwald, accounting supervisor and property administrator in Dept. 191-0, and John Trapp Jr., 18, son of John Trapp Sr., a design engineer in Dept. 961-7, and Edith Trapp, secretary to Grant L. Hansen, vice president - launch vehicle programs.

Both boys were nominated by the Boy Scouts and were honored primarily for scouting activities.

Dan is a junior at Clairemont high; John is a senior at University high.

Lindem Briefs Gov. Reagan and Council on VE

California Governor Ronald Reagan and members of his Governor's Council were given a half-hour briefing on philosophy and general concepts of value engineering Feb. 1 by Everett Lindem, an educational specialist in Convair division's educational services, Dept. 130-3.

The Council is composed of Reagan's cabinet, each of the state's constitutional officers and approximately 60 department heads.

Each attendee at the briefing at the State Capitol at Sacramento was given a copy of a Convair division value engineering booklet. The presentation included participation by the audience and the governor.

The Conservation Department of the California Resources Agency is planning to offer value engineering workshop training for selected personnel. The Resources Agency is one of four major agencies of the State Government.

Lindem's presentation at the Governor's monthly one-hour Council meeting had been requested in a letter from Reagan to Jack L. Bowers, Convair general manager.

Lindem previously had served as a consultant under contracts between Convair and the State for several value engineering training sessions for representatives of state agencies.

Included were two presentations for Division of Highways management personnel Jan. 29-30 in Sacramento, a one-day workshop for the Inter-Agency School of Management Jan. 23 at USC, a one-day workshop for the Conservation Department Dec. 20 in Sacramento, a presentation at a California Youth Authority probation administrators' course Dec. 6 in Asilomar, and half-day presentations and demonstrations at the Northern Regional Inter-Agency Management Conference Dec. 14 at Morro Bay and the Southern Regional Inter-Agency Management Conference last May 26 in Pomona.

Lindem has been a Convair educational specialist nine years and has conducted more than 50 VE workshops for the division. While with Convair, he also has conducted VE workshops and training programs for Stromberg-Carlson, Electric Boat division, and the Kearfott Division of General Precision, Inc., at San Marcos, Calif.

You can buy U. S. Savings Bonds regularly for as little as 50 cents a week.

Roger Lewis to Head 'Plans For Progress'

(Continued from Page 1)

to set the proper atmosphere within their organizations for those directly charged with the responsibility for implementation."

One area where American business can make an immediate contribution, he said, is in lending assistance to the more than 107 predominantly Negro colleges and universities which annually graduate some 14,000 men and women. Lewis called upon American business to establish increased communications with these institutions and guide them in establishing curricula that will produce graduates with industry-needed skills and training.

Speaking before a capacity luncheon audience at the Washington Sheraton Park Hotel, Lewis concluded by evaluating the unique contribution that American business can make to "vast social problems."

"The most sacred tenets of our industrial society are individual initiative and private enterprise. We know that business gets things done. We say that we in business can do many things better than government. We say we can do most things better without government interference and I think government believes this, too. Well, civil rights is now a matter of individual jobs and individual Americans and this is our chance to show what business can do. It is a chance to apply business methods to a vast social problem.

"Obviously, it has to be a partnership. Industry can hire qualified people, it can identify deficiencies, but education and government must provide the means for correcting those deficiencies.

"It is now a matter of how many members of minority groups we are going to hire. Just what is each of us going to do to adjust our policies and procedures, to insure that the opportunities for these people are increasingly equal? Just what are we going to do to make certain that individuals from such groups, who show the initiative and the ability to move up in the supervisory structure of our companies, are given equal opportunity to show what they can do—succeed or fail—just as any other supervisory candidate must do?

"I suggest that Plans for Progress and "Equal Opportunity" have reached the stage in 1968, where the president and senior officers of every corporation should plan for and should budget for their employe programs on an annual basis so everyone in the company, from president on down, knows at the end of this year, whether his company has, in fact, turned plans into progress!"

Management Class Series Still Open For Enrollment

Openings remain in each of 16 spring session management and professional development courses being sponsored by Convair Management Club.

Being given at Lindbergh Field are two "Principles of Managing" courses, "Marketing Salesmanship" and "Systems Engineering."

Those at Kearny Mesa include three "Principles of Managing" courses, "Challenges for Management," "Marketing and Salesmanship," "Effective Writing," "Effective Communication," "Modern Memory Methods," "You and Your Money," "Tomorrow's Technology," "Computers — A Management Tool," and "Systems Engineering Principles."

Details on meeting times and locations for each course can be obtained by calling the Management Club office, ext. 3146 KM. Nine of the courses are open to non-members.

L. C. Josephs, director of advanced systems for Convair, will serve as moderator for the "Marketing and Salesmanship" film series at 5 p.m. Mondays at Kearny Mesa.

Management personnel from several different programs will give presentations in the "Tomorrow's Technology" course Wednesdays beginning today (Feb. 14) from 5 to 7 p.m. at Kearny Mesa.

Speakers and subjects to be covered include: J. A. Fager, large erectable structures, Feb. 14; W. H. Schaefer, composite materials, Feb. 21; C. C. Dragila, information storage and retrieval, Feb. 28; V. A. Larson, electric propulsion, March 6; L. C. Josephs, V/STOL aircraft, March 13; F. J. Dore, reuseable launch vehicles, March 29; R. A. Nau and R. A. Lynch, re-entry vehicles, March 27, and S. H. Logue, lasers, April 3.

Guest speakers in the "Principles of Managing" technical and professional course being given 4:30 to 6:30 p.m. Tuesday at Kearny Mesa and their subjects include: R. J. Lutz, planning procedures; Seymour Zeenkov, role of the program manager; Jack Croft, motivation; R. A. Clark, controlling factory operations, and D. R. Pardee, Convair integrated management system.

Members of the class also will be asked to attend an Aerospace Electrical Society meeting at which Edward T. Clare, vice president of Cohu Electronics, will discuss "Engineers — the optimum managers."

Each session of the "You and Your Money" course, scheduled 7 to 9 p.m. Mondays at Kearny Mesa and designed for husbands and wives, will be conducted by a different professional from outside the company.

Max Skousen of Skousen Tax Service discussed income taxes at the opening session Feb. 12. Robert A. Bowden of Hornblower and Weeks-Hemphill, Noyes will discuss mutual funds Feb. 19, Charles McCoy Jr. of Dean Witter and Co. will discuss stocks Feb. 26, Gerald P. Lewis of San Diego Trust and Savings Bank will discuss wills and estates March 4 and Glenn Zick of San Diego Trust and Savings Bank will discuss bonds, mortgages and securities March 11.

The meeting at which Zick will speak will be held at the Town and Country Hotel and will include dinner. The $3 course charge includes the dinner.

"Modern Memory Methods," being taught 7 to 10 p.m. Thursdays at Kearny Mesa by Don Robinson, utilizes special techniques for rapid learning and improved memory and has been completed by more than 4,700 persons. Cost is $25 for Management Club members and $40 for non-members.

Education Council Honors Two GD Men

Two General Dynamics employes were awarded certificates for "outstanding service" by the San Diego Industry-Education Council in ceremonies Jan. 31.

James W. Crooks Jr., an engineering staff specialist with Electronics-SD, was honored for his part in founding the Industry-Education Council and his continuing service to Council programs.

Emory W. Thurston Jr., an education specialist in Convair's Dept. 130-3, was honored for his service to education and his work with the Greater San Diego Science Fair.

E. W. Carlson of Convair's Dept. 553-3 was re-elected treasurer of the Council and C. F. McMenamy of Dept. 566-3 was re-elected to a two-year term on the board of directors.



FULL HOUSE—Stromberg-Carlson Data Products Open House attracted more than 1,000 visitors to El Cajon plant. At left, Glen Bair, electronic assembly foreman, explains exhibit featuring termi-point wiring of circuit board cage for S-C 4360 microfilm recorder. Center: John Carter, standards lab technician, demonstrates S-C 4060 stored program recording system. Right: John Laing, electronic assembly foreman, discusses wave soldering operation.

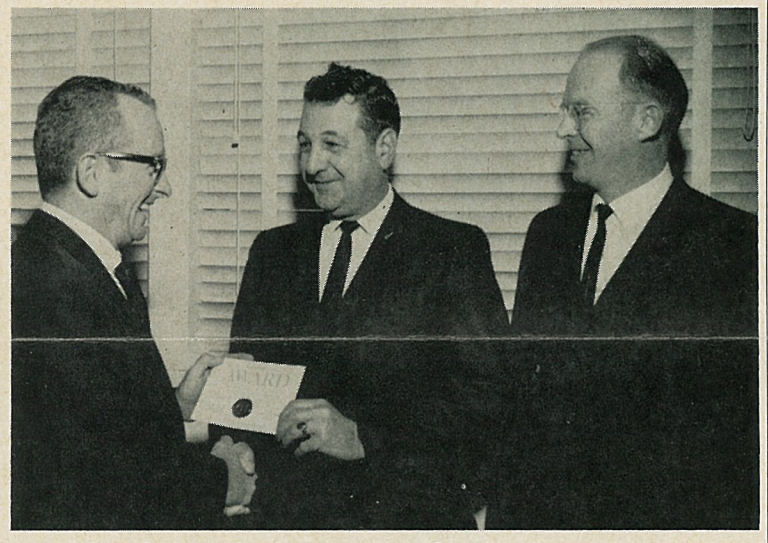
Marcella Earns Award of $3,120 With Process Supplier Idea

T. J. Marcella, a senior quality control engineer in Convair's Dept. 144-1, recently received a $3,120.20 award for an Employe Suggestion that has resulted in elimination of 365 special process suppliers from Convair approved source documents.

The suggestion will save Convair an estimated $31,202 a year by eliminating requirements for capability and facility inspections by Convair procurement quality engineers at the supplier firms' locations across the country.

Marcella's initial suggestion was for reducing the number of cleaning suppliers to those with "unlimited" capabilities who can meet all the division's cleaning specifications and have the equipment and facilities necessary for cleaning of various hardware configurations.

The proposal later was expanded to include suppliers in nine other special process categories.



READY CASH—T. J. Marcella, Convair Dept. 144-1 senior quality control engineer, receives Employe Suggestion award for more than $3,000 from R. S. Campbell, left, manager of procurement reliability control, as R. J. Hendrickson, chief of procurement quality control, observes.

New Chemical Etch Facility Installed at Lindbergh Field

A modern chemical etching facility has been installed at Convair's Lindbergh Field plant to mill aluminum alloy parts, principally for the F-111.

Bldg. 45, which formerly housed tool storage, has been completely rebuilt for the chem etching, or milling, operation.

Equipment installed and in use includes a 4 x 6 x 10-ft. mask tank; two etch tanks, two rinse tanks and a deoxidizer tank, all 4½ x 8 x 15-ft. in size; and a large curing oven, 10 x 20 x 20-ft. A ton-and-a-half monorail handles parts as they go from one tank to another.

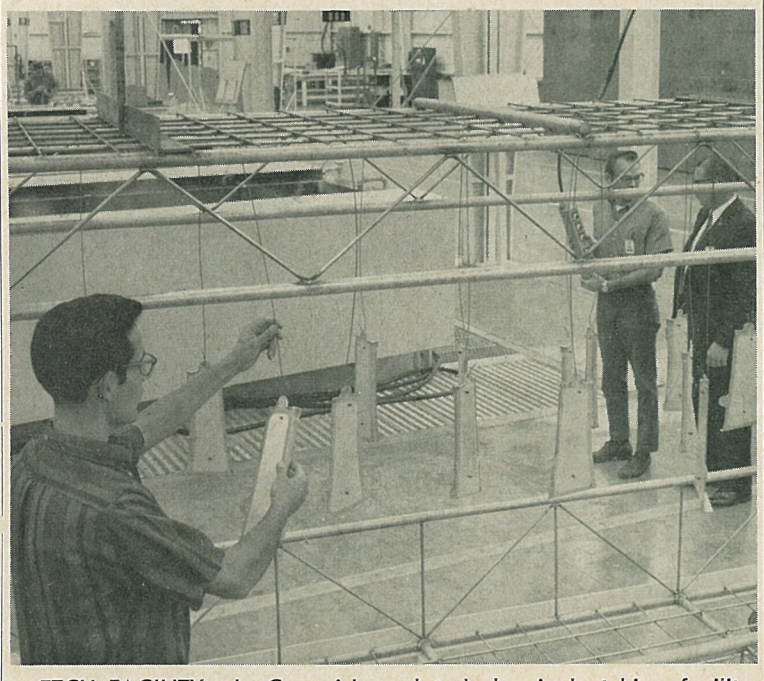
The chemical milling process has been accepted by industry as speedier (parts are etched at approximately a mill a minute) and less expensive than mechanical milling. Also, metal parts receive little stress in the chemical process and retain original stiffness.

The facility is assigned to sheet metal, Dept. 001, under overall responsibility of G. K. Cox, general foreman, and H. A. Mohr, foreman. G. W. Oliver is assistant foreman directly in charge.

Now in initial phases of operation, the facility will build up to a crew of 12 working on two shifts within a couple of months, depending upon schedule and work loads, Oliver said.

Salvage Schedule

Next sales day for GD employes at the Convair salvage yard, Lindbergh Field plant, will be Saturday, March 2. Sales hours are from 8 a.m. until noon every fourth Saturday. Children are not permitted inside the yard.



ETCH FACILITY—In Convair's updated chemical etching facility, Bldg. 45 (at left) Jim Chertkow attaches parts on wire holders for dipping into etch tanks. Jack Bowen is at crane control, and G. W. Oliver, assistant foreman, at far right.

Brandon Neal Named Direct Budgets Mgr.

Brandon J. Neal has been appointed manager of direct budgets for Convair division, reporting to John D. Milling, controller. He had been acting manager since last November.

Neal joined the company at Fort Worth as a budget analyst in 1958 and became a project budget coordinator there the following year.

He transferred to the former Astronautics division as a budgets supervisor in 1961, became a project financial control manager for the Atlas weapons system in 1962, and a budget supervisor in direct budgets Dept. 194-0 in 1965 with primary responsibility for Lindbergh Field plant programs.

Neal studied engineering at Lake Forrest College, Ill., and math, accounting and English at the University of Toledo, Ohio.

Counseling Offered For State Exams

Assistance to General Dynamics industrial engineers preparing for professional registration in the State of California is offered in a series of weekly classes at the CRA Clubhouse, Kearny Mesa.

R. W. McGuire of Convair meets with a group each Thursday evening, 6:30 to 8 p.m. He helps fill out application forms and reviews material covered in examinations leading to state registration.

For further information call McGuire at ext. 1516 KM.

SOMALI SULTAN VISITS PLANT

Sultan Abdullahi Rashid, vice president of the Somali National Assembly of Mogadshu, Somali Republic in Africa, visited Convair division's Kearny Mesa plant Feb. 9 for a briefing and tour. His United States trip is sponsored by the State Department through the African-American Institute.

Application Forms Available For Mgt. Club Scholarships

Application forms for Convair Management Club scholarships are available now for sons and daughters of Convair employes who plan to apply for the annual awards. Four scholarships of $500 each will be given.

Official application forms and rule booklets may be obtained from the Management Club office at the Kearny Mesa plant, ext. 3146; from educational services offices at both Kearny Mesa and Lindbergh Field plants.

They may be obtained also through any high school in the San Diego area.

These forms, accompanied by high school transcripts, must be returned to the Management Club office, KM mail zone 130-00, before March 31.

Applicants must be high school seniors or high school graduates of not more than one semester before date of application.

Scholastic standings must be in the upper third of applicants' class.

Parents or legal guardians must be employed by Convair at the time of application.

Finalists will be chosen by the club scholarship committee on a basis of academic achievement, extracurricular activity, leadership activity, honors and awards.

M. M. Saunders Jr. again heads the scholarship committee. Other members are Joe Bowers, Gene Hartzler, Dick McGuire, Helen Pemberton, and Wayne Turner.

Winners of 1967 scholarships were Ruth Anne Gjerset, Nikki Joyce Perkovich, Robert George Spitzer, and Michael Alan Van Horne.



"ENGINEER OF YEAR"—W. A. Roden of Convair's Dept. 491-0, left, receives "Engineer of Year" award from Lew Pratt, chairman of Chapter 189 of American Society of Tool and Manufacturing Engineers (ASTME). C. E. Roye, assistant supervisor of manufacturing development for Convair and ASTME regional chairman, is in center.

ASTME Chapter Honors Roden As Top Engineer For Last Year

William A. Roden, a senior manufacturing development engineer in Convair's Dept. 491-0, has been named "Engineer of the Year" by Chapter 189 of the American Society of Tool and Manufacturing Engineers (ASTME).

Roden, a Convair employe since 1963, received the award for his development of a resistance monitoring and in-process control system. He has specialized in development of resistance and fusion welding processes at Convair and holds a bachelor's degree in welding engineering from Ohio State University.

The "Engineer of the Year" award is presented in February by the ASTME chapter to coincide with "National Engineers' Week," which this year is being observed Feb. 18-24.

This year marked the third consecutive year for a Convair manufacturing development engineer to receive the award. Robert E. Bruce of Dept. 403-3 received the award in 1967 and Joseph E. Carlin of Dept. 491-0 in 1966.

Riders Will Elect Officers Tonight

CRA Riding Club members will elect officers for the coming club year at tonight's (Feb. 14) meeting, 7:30 p.m., in CRA Clubhouse.

Paid-up members will be eligible for the door prize drawing. Lucky ticket holder must be present to win.

Following the business meeting a movie, "Horse With the Flying Tail," will be shown in the auditorium. Convair Rockhounds, who meet the same night, will join the Riding Club to view the film.

The club's first open show of the year will be March 17.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is Feb. 20. Call ext. 1071 LF or 3322 KM.)

★ ★ ★

ADVENTURERS—Color slide showing open to public Feb. 21, 7:30 p.m., CRA auditorium. Overnight camping trip to Anza-Borrego State Park Feb. 24-25. Call Dick Bowen, 278-9846.

BADMINTON — Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BICYCLE CLUB—25-mi. ride to Frontierland Feb. 24. Meet at 9 a.m. at Bank of America, 9710 Campo Road, Spring Valley. Brief session before ride.

BOWLING — Free bowling party for Convair families Feb. 25, at Brunswick Bowlero, 7065 Broadway, Lemon Grove.

CAMERA CLUB — Meeting Sunday, Feb. 18, 8 p.m., Photo Arts Bldg., Balboa Park.

CERAMICS — Meetings Tuesdays and Thursdays, 7-10 p.m., CRA Clubhouse.

CHESS—Play Wednesdays, 7:30 p.m., CRA Clubhouse.

CHORUS—Rehearsals Tuesdays, 7:30 p.m., CRA Clubhouse. Call Jim Pate, ext. 3034 KM; Jo Anne Bray, ext. 1091 LF; or Walt Minor, ext. 1111 KM after 4:30 p.m.

COIN CLUB—Meeting Feb. 21, 8 p.m., Convair cafeteria, Lindbergh Field.

DELTA DIVERS — Meeting tonight, Feb. 14, 7:30 p.m., CRA Clubhouse.

FENCING—Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FISHING—Election of officers Feb. 20, Gillespie Field Clubhouse. Potluck dinner at 6:30; meeting, 7:30. Field trip to Lake Murray Feb. 24.

GOLF — CRA tourney Feb. 17-18, Rancho de los Penasquitos course. Today (Feb. 14) is deadline for starting times. Call ext. 511 LF.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Mondays through Fridays; 10 a.m. to 5 p.m., Saturdays. Call ext. 1111 KM.

ICE SKATING—Registration open for Big Bear Weekend, March 1-3. Call Bud Davies, ext. 2751 KM. GD family skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

JUNIOR SCIENCE—Meeting Feb. 16, 7:30 p.m., CRA Clubhouse.

MINIATURE RAILROAD—Work sessions Saturday mornings, meetings at noon first Saturday each month, CRA Missile Park. Al Kent, ext. 3314 KM.

MODEL HO RAILROAD—Work sessions 9 a.m. Saturdays and 7:15 p.m. Tuesdays, CRA Missile Park. Dave Fyffe, ext. 2101 KM.

PISTOL CLUB—Club shoot Feb. 25, 9:15 a.m., SD Police Pistol Range.

RADIO CLUB—Meeting Feb. 15, 7:30 p.m., CRA Clubhouse.

RIDING CLUB—Election of officers tonight (Feb. 14), 7:30 p.m., CRA Clubhouse. Movie at 8 p.m.

RIFLE CLUB—Senior shoot Feb. 28, 7:30 p.m., Gillespie Field Range.

ROCKHOUNDS—Meeting tonight, Feb. 14, CRA Clubhouse. Join Riding Club for movie at 8 p.m.

ROLLER SKATING—Free skate night Feb. 19, Skateland, Front and G Sts. Tickets at employe services outlets.

SCULPTURE—Workshop sessions Mondays, 7-10 p.m., CRA Clubhouse. Open to all General Dynamics employes.

SPORTS CAR CLUB—Meeting tonight (Feb. 14), 7:30 p.m., Convair executive dining room, LF.

SQUARE DANCING — Graduation of beginners square dance class Feb. 29, CRA Clubhouse. Round dance instruction starts March 5, 8-10 p.m., CRA auditorium.

STAMP CLUB — Meeting Feb. 22, 7 p.m., CRA Clubhouse.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m., CRA Clubhouse.

TRAILERS—Road Runners meet Feb. 22, 7:30 p.m., Gillespie Field Clubhouse.

WIVES — Luncheon Feb. 21 at Sir George Smorgasbord, Balboa Ave.

Bargain Tickets

(Following are bargain-rate tickets currently available to employes. Unless otherwise stated, they are offered at employe services offices of Convair, Stromberg-Carlson, Electronics-SD, H. C. Medearis' office at AF Plant 19, and CRA Clubhouse.)

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Tickets to "Dr. Doolittle," starring Rex Harrison. Sunday, March 24, showing, 8 p.m., Cinema 21. Tickets will be on sale from Feb. 16 to March 22. All reserved seats: loge, regular $2.75 seats for $2.20; orchestra, $2.25 seats for $1.80.

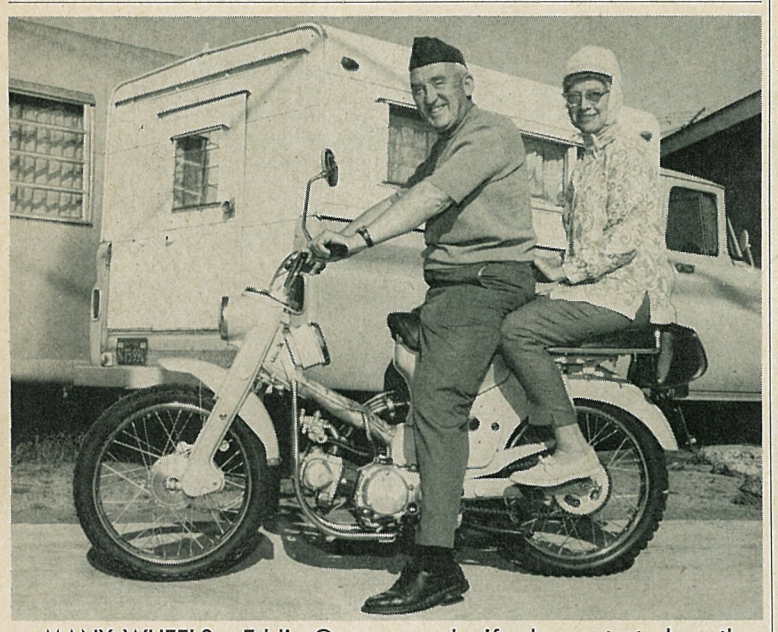
Fishermen to Meet At Gillespie Field

New officers will be chosen at the CRA Fishing Club's meeting next Tuesday, Feb. 20, at the Gillespie Field Clubhouse. Potluck dinner will be at 6:30 p.m.; business session at 7:30.

Plans will be announced for this month's field trip to Lake Murray on Saturday, Feb. 24.

No fish fry will be held because of lack of facilities. However, there will be a barbecue at 3 p.m. Everyone should supply his own meat and a potluck dish. Charcoal will be furnished.

Earl McDaniel, at ext. 1067 LF, or Phil Poche, ext. 1981 LF, may be contacted for further information.



MANY WHEELS—Eddie Generas and wife demonstrate how they supplemented pickup-trailer transportation with motorcycle during trip around U.S.

Four-Month Lark

Motorcycle, Pickup Combined On 12,220-Mile Tour of U. S.

When Eddie Generas retired from Convair last year and said he was "going to take a trip with Mrs. Generas" he really meant it.

The trip lasted four months, covered 12,220 miles in 27 states, Mexico and Canada, and cost precisely $1,342.71. Their outfit consisted of a half-ton GMC pickup truck with camper, a 27-foot Avion trailer and a light motorcycle carried on the front of the pickup.

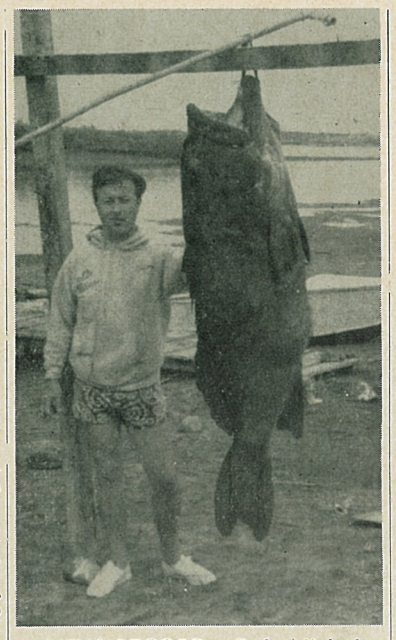
Their route roughly circled the U. S. as they traveled through all Mexican border and Gulf states to Florida, then north to New England, Quebec and Ontario, through the middle west and up to the Dakotas and home through Utah and Nevada.

The cost breakdown was food $380.74, gasoline $368.93, lodging $161.33, miscellaneous $431.71 (this included truck and trailer repairs).

"Of course, we visited many friends along the route and periods as house guests helped keep down expenses," Generas reported.

Of the 12,200 miles, 1,126 were logged aboard the motorcycle. They used this for all city and park sightseeing tours as easier to maneuver and park than the pickup.

Generas joined the company in Buffalo in 1934 and came to San Diego with the move the following year. He was in production control and tooling during his years with Convair.



NEW RECORD—Bob Nicholas displays 123-pound grouper that established new CRA Delta Divers' record.

It's New Record

Foiled Once, Determined Diver Tries Again, Bags Big Grouper

Bob Nicholas of Convair's Dept. 831-0 established a new CRA Delta Divers record Jan. 28 by spearing a 123-pound grouper at Mulege on the eastern side of the Baja California peninsula.

Nicholas and three other Delta Divers—Loren Batchman, Jack Fisher and Pete Smith — had flown down the Baja west coast to Scammons Lagoon with Jim Kennard of the CRA Adventurers in Kennard's six-place Piper Cherokee to photograph grey whales at their spawning ground.

The group then flew across the peninsula to Mulege for spearfishing from an 18-foot chartered boat.

Nicholas, using swim fins and a face mask, was swimming along the bottom when he spotted the big grouper and got within five feet before pulling the trigger.

The fish ripped the spear from its body in a fast run then darted under a reef. Nicholas tried to reload but found the line too tangled. He then swam down, rammed the spear shaft into the fish and pulled it back to the surface.

Fish qualifying for the Delta Divers' record and annual awards competition must be taken without scuba gear and be witnessed by three or more members of the club.

Bill Howard held the previous record with an 83-pound black sea bass speared late last year at Punta Cabra near Ensenada.

CLUB TO FEATURE ROUND DANCING

Instruction in round dancing will be offered by the CRA Square Dance Club this spring instead of the usual square dancing beginners course.

Classes in basic steps will start March 5, 8 to 10 p.m., in the CRA auditorium, Kearny Mesa. The series will continue Tuesday nights for approximately 20 weeks.

Instructors will be Clark and Aillene Elliott, club callers.

Registration will be accepted at the first three sessions, March 5, 12, and 19. Only charge is a 50-cent fee per person for each dance class.

Convair square dancers will graduate 40 who have completed the fall instruction square dancing class at a party in the Clubhouse on Feb. 29. A potluck dinner will be served.

For information on meetings or dance sessions call Pearl Garrison, ext. 1468 LF.

Slide Show Slated At CRA Auditorium

A color slide show on recreational areas in California's national forests will be shown, free of charge, next Wednesday evening, Feb. 21, at 7:30 p.m. in the CRA auditorium, under auspices of the CRA Adventurers.

Roy M. Saarni, recreational land officer, Cleveland National Forest, will present the slides and discussion on "Recreation and Multiple Use Management in National Forests of California."

The program is open to the public. It is especially pointed to hikers, hunters, rockhounds, prospectors and all who seek adventure off the beaten track.

Country's Top Glider Pilots To Compete at Torrey Pines

Top glider pilots from all parts of the country will compete in the 22nd annual Pacific Coast Mid-Winter Soaring Championships at the Torrey Pines Gliderport on Feb. 24 and 25. If rained out that weekend, the meet will be held March 2 and 3.

J. R. Spurgeon of Convair will be master of ceremonies and other Convair men plan to enter. Walt Mooney, at least, is certain he will fly and Sterling Starr and Ernie Shattuck may take part.

Pilots will compete for the John J. Montgomery Memorial trophy for best overall performance. Events include duration, altitude, spot landing, bomb drop, and cross-country. Added features at this year's meet will be a trophy for the highest-scoring home-built craft and an aerobatics demonstration with the pilot explaining to the spectators via radio and the public address system exactly what he is doing as he does it.

This year the University of California at San Diego Soaring Club will co-sponsor the meet with the Associated Glider Clubs of Southern California.

Roland Schneider Wins Police Shoot

Roland Schneider took first in the .22-cal. Police Course at CRA Pistol Club matches Jan. 28. He shot a 291 with Harry Black second with 287.

Warren Walker topped the expert class for the second consecutive time. His score was 288. Bill Dittmann's nine Xs put him in the second-place spot to break a three-way tie. Dittmann, Dick Sutton, and Bill Worthington all had 270 scores.

Schneider went on to win the Short National match with a 278. Walker was second with 274; Sutton, third, 269; Dittmann, fourth, 259.

The Convair club has scheduled an inter-company pistol match with Solar on March 24. Trophies will go to the first and second-place teams.

For information on matches call Walker at ext. 1104 LF, first shift, and Schneider, ext. 1564 LF, second shift. Any Convair employe or member of the family is eligible to join shooting activities.

Talk on Three-Cent Silver Scheduled

Slides and a talk on three-cent silver and three-cent "nickels" will highlight the Feb. 21 meeting of the Convair Coin Club, 8 p.m., in the Convair cafeteria at Lindbergh Field.

Sixteen BU coins, ranging from 1935-S one-cent pieces to an 1882 dollar, will be raffled. Door prizes will be two 1938-S one-cent pieces and two 1934 one-cent pieces. Refreshments will be served and all present will get give-away coins.

Free Bowling Party Sponsored by CRA

A free bowling party for all Convair employes and their dependents will be sponsored by CRA on Feb. 25 at the Brunswick Bowlero bowl located at 7065 Broadway, Lemon Grove.

Bowling, instruction, bowling balls, shoes, and refreshments will be furnished free of charge. A playroom will be available for small children. The party is for all bowlers, regardless of experience, and those interested in learning.

Two-Week Tour Of Spain Slated

A guided trip to Spain is offered General Dynamics people for the first time this year under auspices of the Convair Management Club.

Jim Hardison of Convair support contracts will conduct the two-week tour. Hardison has taken General Dynamics tourists on de luxe tours to Mexico for several years.

This summer he expects to take a group of 60 by air from San Diego to New York where they will emplane for Portugal and Spain.

First in a series of orientation briefings will be held Feb. 28 at 7 p.m. in the Convair executive dining room, Lindbergh Field.

Tour dates are from Aug. 10 to Aug. 24.

Cost of round-trip air transportation, first class hotel accommodations (two to a room), most meals, sightseeing fees, is $695 a person.

Itinerary will be by American Airline jet from San Diego to New York; Pan American jet to Lisbon; from there to Seville, Cadiz, Algeciras at Gibraltar to Tangier, on the north African coast, by ferry. On return to Spain tourists will visit Malaga, Granada, Madrid, Toledo and complete the tour with two days in Paris. There will be an option of two days in Rome, also.

Hardison may be contacted at his home phone, 276-5805, for reservations and information.

Adventurers Plan Anza-Borrego Trip

CRA Adventurers will travel to the desert over the weekend of Feb. 24-25 for an overnight camping trip in Anza-Borrego State Park.

The trip has been planned for cars and four-wheel drive vehicles.

Base camp will be set up in the south rim scenic area of Borrego Mountain, near Ocotillo Wells, off Highway 78. Adventurers will meet at the Ocotillo Wells Cafe at 10 a.m. Saturday morning.

Water and wood must be supplied by each family as there is none in the area. There are no sanitary facilities either.

Details will be discussed at the Feb. 21 meeting. Coordinators are Ray Madden, Larry Lesh, and Dick Bowen. Bowen may be contacted at his home phone, 278-9846.

Rabbits, Gyros Battle for Title

Black Rabbits will meet the Gyros in a play-off for the championship of the CRA slow-break basketball league tomorrow, Feb. 15.

Gyros were winners of the first round while Black Rabbits led second half play.

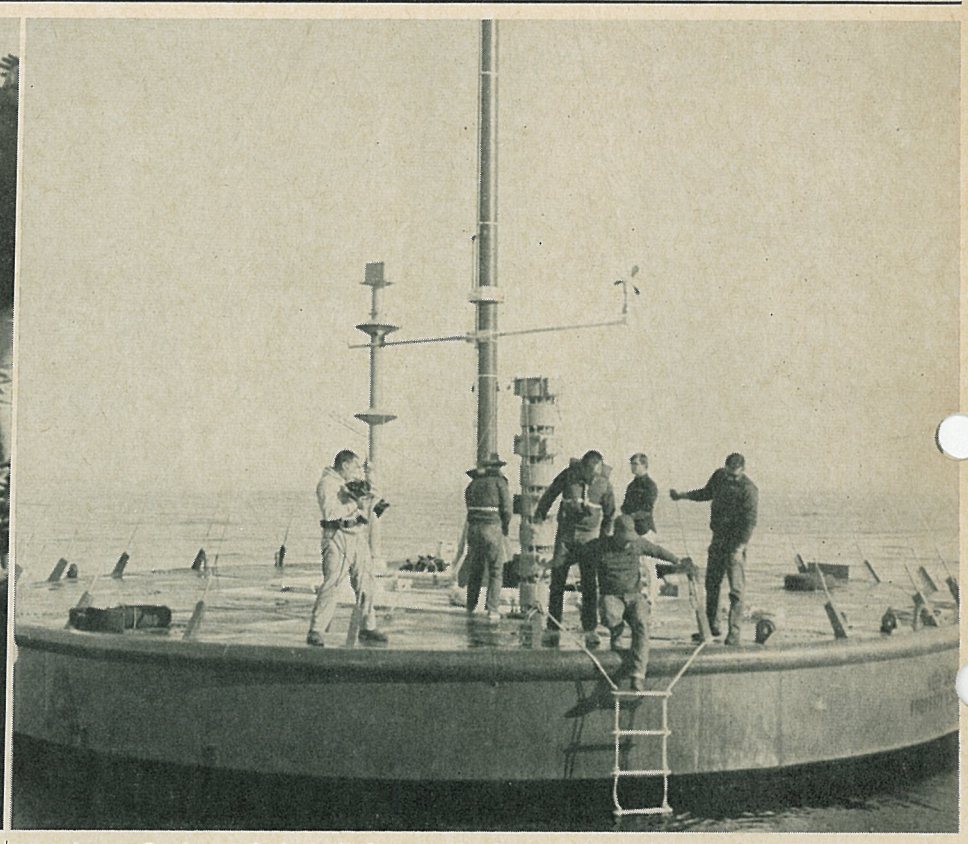
Game time will be 6:30 p.m. on Muni Gym's Court 3.

Fast-break winner will be decided within the next couple of weeks.

TODAY IS DEADLINE FOR ENTERING TOURNEY

Today (Feb. 14) is the last day for Convair golfers to sign for this weekend's, Feb. 17-18, CRA links tourney at Rancho de los Penasquitos course. Commissioner Del Dimmitt asks all who can not keep their starting times to call ext. 511 LF.





BUOY RETRIEVAL—At left, divers prepare to go down to 100 ft. below surface to bring up mooring line of Convair-developed ONR data gathering buoy, Alpha, during retrieval from site off Southern California coast late last month. Tug, in background, and Scripps research vessel (foreground) secured buoy for towing to shore. On buoy during all-day retrieval operations (shot at right) are Bill Woods, movie photographer; Jim Winters, reliability engineer; George Barlow, operational engineer; Leonard Perry of Dept. 031, securing ladder for diver; Bill Scanlon, Scripps biologist; Henry Richetti, Dept. 031 assembler.

Travel Costs Surveyed In Conservation Drive

Reduction of departmental indirect-budget travel costs by $267,000 this year is one of the goals of Convair division's new Conservation Program.

Each department has been asked to consider feasibility of establishing a centralized travel authorization review procedure within the department as one means of restricting unessential travel and reducing travel costs.

E. D. Heller, manager of cost reduction and value control and administrator for the Conservation Program, said better coordination of travel planning at departmental level and between departments and functions should result in considerable cost savings.

"Frequently several individuals attend a meeting where it would be feasible for one to attend and then brief the others after his return," he said.

"Proceedings or reports on many of the technical meetings also are published and are available later in the division library for detailed review," he said.

The $267,000 reduction goal for travel costs represents an 18.7 per cent reduction in the $1,424,000 budgeted by the division for travel during the year.

Goals for reduction by departments includes: General manager, $1,900; legal, $1,000; community relations, $5,000; contracts, $9,500; marketing analysis, $1,000; military space programs, $5,000; reliability control, $5,800; finance, $11,800; material, $29,500; industrial relations, $20,500; research and engineering, $82,000; launch vehicle programs, $21,500; Kearny Mesa operations, $37,500, and Lindbergh Field operations, $35,000.

Through the Conservation Program, Convair hopes to reduce expenditures by $1 million in six indirect-budget categories. Included, in addition to travel expense, are photo and reproduction, operating supplies, telephone, perishable tools and equipment and plant maintenance and equipment costs.



PRETTY REMINDER—Pat McPheeters, statistical clerk in Convair cost reduction and value control Dept. 192-0, reminds Convair employes that travel is one of six indirect-cost categories to be reduced to save division $1 million.

Phone Changes at Both Plants Pave Way For Direct Dialing

Some in-plant phone extensions at both Convair Kearny Mesa and Lindbergh Field plants were changed this month in the first step to clear lines for the Corporate-wide direct dialing system.

At Kearny Mesa all numbers in the 600 series have been changed. The last two digits have been retained for the most part. All holders have been notified individually of their new numbers, D. B. Zink, supervisor of office services, said.

At Lindbergh Field all 700 numbers have been changed to the 2100 series. Change-over was complete early this month.

Future plans call for the change of 700 numbers at Kearny Mesa to 3700 series and 800 numbers, also at Kearny Mesa, to 3800 series. These changes will be made by July when the inter-division direct dialing is due to go into effect.

Two at Vandenberg Awarded Master's

Two Convair division employes at Vandenberg AFB were awarded master of aerospace operations management degrees from the University of Southern California in ceremonies Jan. 25 at Vandenberg.

They were Howard R. Pearson, test conductor in charge of the Dept. 985-1 design and data analysis group, and Frederick J. Tapken, a senior design engineer in the same group.

Both received their master's by attending evening USC courses at Vandenberg. Pearson received his previous A.B. degree from Boston University and Tapken his B.S.E.E. from South Dakota State.

Fagan Succeeds Daly; Latter Goes to Quincy

(Continued from Page 1)

sembly and checkout of launch vehicles from December, 1965, to February, 1967, and factory manager for assembly, checkout, acceptance and combined systems tests for launch vehicles from February to June, 1967.

He holds a degree in physics from San Diego State College, studied at the UCLA college of engineering and graduate school of business administration and attended Navy and Marine Corps electronics and radio schools.

Fagan joined Convair as a test engineer in 1955 and served as a test engineer, assistant test conductor and test conductor at Edwards Rocket Base from 1956-58.

He became a test conductor at Vandenberg AFB in 1959, chief test conductor in 1960, manager of launch operations in 1962 and Convair manager of base operations in 1963.

Fagan has been responsible for 150 Atlas D, E, F and SLV launches and was test conductor for launch of the first Atlas from Vandenberg, 12D, on Sept. 19, 1959.

He was operations manager and Daly was test conductor for the first launch from a silo of an Atlas F-series missile, 15F, at Vandenberg on Aug. 1, 1962.

Fagan holds a math degree from Miami University of Oxford, Ohio, and studied mechanical engineering at the University of Cincinnati.

Psychologist Slated To Address Mgt. Club

Tickets are on sale for the Convair Management Club dinner meeting Feb. 21 at El Cortez Hotel.

Dr. Herb True, research psychologist with a flair for showmanship, will present his mind-stretching ideas in a "framework of fun and entertainment."

He will prove that selling an idea can be fun.

The 7 p.m. dinner will follow the 5:30 social hour.

Tickets are $3.50 each for dinner and parking. They may be purchased from club Boosters at all locations.

Safety Office Moved To Lindbergh Field

Convair's main safety office was moved to Lindbergh Field plant last week and is now located in the northwest side of Bldg. 16, employment building.

John P. Hopman, chief safety engineer, is occupying the former Lindbergh Field educational services offices. His phone extensions are 464 or 465 LF.

The Kearny Mesa safety office will continue to be located in Bldg. 17, ext. 726 KM.

R. P. Schulz, senior safety engineer, and James H. Cooper, safety engineer, will be assigned to the Lindbergh Field safety office. L. J. Breen, industrial hygienist, will be based at the Kearny Mesa office. Glenn H. Berg, now at Lindbergh Field, is being reassigned as safety engineer at Vandenberg AFB.

L. W. Turner, educational specialist at Lindbergh Field, and Sam Galasso, special courses instructor, are now located on the second floor of Bldg. 15 above the Lindbergh Field plant hospital. Extension remains 491 LF.

ONR Buoy Prepared For North Pacific Mission

Alpha, oceanographic and meteorological buoy developed by Convair division for the Office of Naval Research, was retrieved from its ocean station off the Southern California coast late last month to be readied for its next task, a scientific mission in the North Pacific Ocean.

The huge buoy, second ONR buoy to be put into operation, had been moored since last June 11 in the Pacific Ocean, 17 miles west of La Jolla, Calif., for long-range telemetering tests. These tests were highly successful, according to Convair's ocean data station program manager, Robert F. Devereux.

The buoy had been interrogated daily by two mobile stations, the VHF station located on Point Loma, and the Mobile Data Center. Control and testing of the buoy was accomplished over a north-south path from San Diego to Seattle, Wash., and, last fall, over an east-west path across country between San Diego and Washington, D. C., proving the long-range real time data capability of the ocean data station system.

Signals also were received and recorded by Naval radio stations on Oahu, in the Hawaiian Islands, and at Kodiak, Alaska, both over 2,500 miles away.

Alpha has now joined Bravo, the first ONR buoy, at Convair's Harbor Drive test facility for refurbishment and outfitting for the North Pacific exploratory deployment. They will acquire and transmit oceanographic and meteorological data which will enable scientists to study causes of physical changes in the upper layers of the ocean in that region.

Retrieval of buoy Alpha from its West Coast site took place on Jan. 24. The operation crew left Scripps Marine Facility on San Diego Bay at 6 a.m. and returned that evening at 6 p.m. In addition to the buoy, the mooring line, acoustic release, and the three underwater sensor packages on the line which measure temperature, depth, and salinity, also were retrieved.

Perfect weather and a smooth operation, without complications, combined to ease the task, K. N. Jones, project engineer in charge of retrieval, said.

Two Scripps Institute of Oceanography vessels took part in the operation. The research vessel Oconostota towed the buoy to shore after it was secured, and a small tug was used to transport crews from the buoy to the larger vessel and maneuvered the buoy into towing position.

The 2,800-ft. dacron mooring line was freed from its anchors by an acoustic release triggered by a deck control unit on the Oconostota.

Ship to shore radio contact was maintained between the buoy and the VHF station on Point Loma to monitor mooring loads during release of the line. By the change in the mooring loads, the VHF station operations were able to confirm that the line was free.

Participating in the operation were R. A. Cunningham, Leonard Perry, J. L. Hendrick, R. S. Mafnas, T. D. Noriege, and H. D. Richetti of Dept. 031.

S. T. Uyeda, chief of marine operations-buoy program, D. K. Smith, A. L. Cappelen, G. T. Barlow, J. H. Winters also participated in the retrieval.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 5 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, February 28, 1968

Family Party Slated March 30 At Disneyland

Employe families by the hundreds are making plans to spend the evening of March 30 at the big five-hour General Dynamics family party at Disneyland.

Tickets for the party, sponsored by the Convair Management Club and beginning at 8 p.m., are now on sale at $3.75 per person. Children under three will be admitted free.

The single admission price will cover unlimited use of all rides and attractions, including the new $23 million Tomorrowland, an entertaining showcase for science and industry.

Parking will be free, bands will provide dance music and special entertainment will be scheduled at the Golden Horseshoe, Tomorrowland stage and Coke Terrace. Reduced dinner prices will be in effect at the Plaza Inn (chicken), Blue Bayou (Gulf Shore dinner) and Creole Cafe, and special room rates will be in effect for those wishing to spend the night at Disneyland Hotel.

Tickets are on sale at all employe services outlets, the CRA Clubhouse and at the following in-plant Convair offices:

Lindbergh Field — J. N. McPheeters, Bldg. 4, ext. 438; Dudley Digges, Bldg. 1, ext. 630; W. B. Jones, Bldg. 5, ext. 1405.

Air Force Plant 19 — H. C. Medearis, Bldg. 3, ext. 602.

Kearny Mesa — William Gatterman, Bldg. 33, ext. 1861; G. A. Grossaint, Bldg. 5, ext. 1095; Lee Cox, Bldg. 5, ext. 2648; F. J. Parker, Bldg. 5, ext. 3268; Jack Kline, Bldg. 5, ext. 1843; C. E. Taylor, Bldg. 5, ext. 3592; C. T. Talbott, Bldg. 3, ext. 1071; Dr. G. M. Clarke, Bldg. 1, ext. 778; C. K. Anderson, Bldg. 4, ext. 3187; P. R. Green, Bldg. 26, ext. 1641; D. W. Grisel, Bldg. 33, ext. 1806.

Tickets at other General Dynamics locations are available at the following offices:

Sycamore Test Site, J. B. Henn, 277-7690; Stromberg-Carlson Data Products, George Elmore, ext. 242; Liquid Carbonic, Tom Paddock, 278-0102; Edwards AFB, Larry Failor, 277-3001; Electronics-SD, George Leesch, ext. 1757; Vandenberg AFB, Marvin Tooley, ext. 2921; Harbor Drive Facility, A. W. Adams, ext. 1641; and Los Angeles Material Office, Pat Hart, 937-1080.

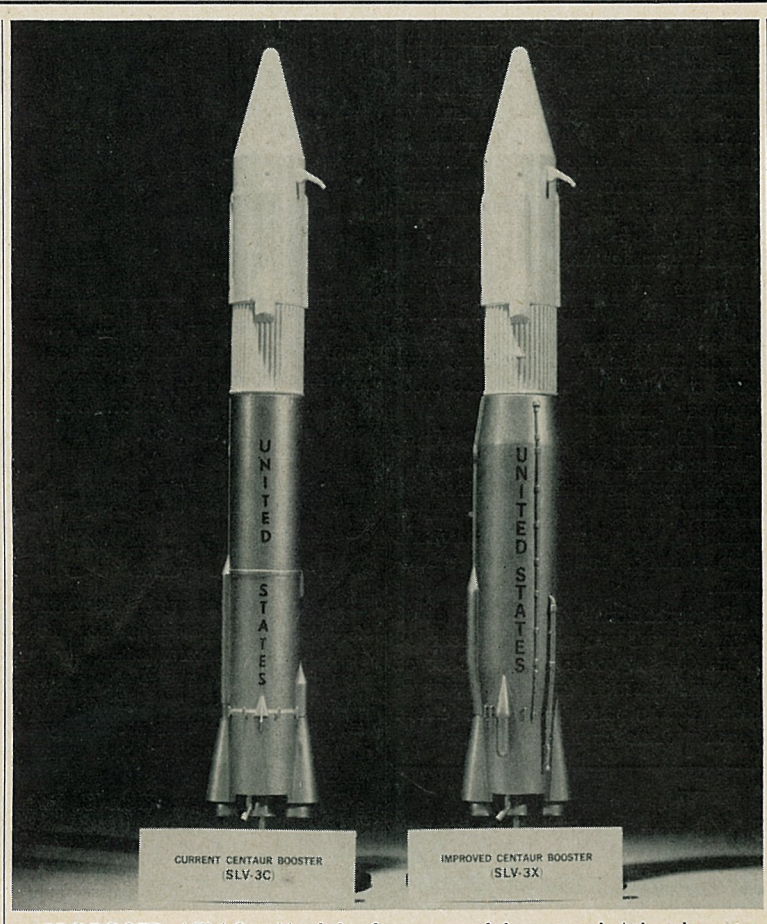
Bus service from San Diego will be provided for those not wishing to drive. Round-trip tickets will be $3.25 each and buses will load at 5:15 p.m. at the main entrance to the Kearny Mesa plant.

Don Evanson, planning committee chairman, said friends and relatives of employes also are invited. All tickets must be purchased in advance since none will be sold at the gate.

Maj. Gen. Bleymaier Briefed on Convair

Maj. Gen. Joseph Bleymaier, Air Force Space and Missile Systems Organization deputy commander and Manned Orbiting Laboratory director, was a guest of Convair Feb. 9 for a briefing on the division's capabilities and a discussion and exchange of technical information on future military "man in space" programs.

Presentations were given by Jack L. Bowers, Convair general manager, and key management personnel. Other members of Gen. Bleymaier's staff are scheduled to visit Convair next month.



PROPOSED ATLAS—Model of proposed improved Atlas booster for Centaur, SLV-3X, is shown at right in comparison with model of present Atlas SLV-3C and Centaur. Proposed future booster would have uprated engines and 12½-ft.-diameter tank for increased fuel capacity.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

★ ★ ★

Q — Does Convair plan to establish a point system for full retirement of salaried personnel?

A — Not at this time. Benefit changes are considered within a context of "total compensation," i.e. the sum of all benefits and salaries. It is Convair's philosophy that total compensation of salaried personnel should be externally competitive, with respect to key competitors, and internally equitable with respect to that of other groups, including hourly personnel. Total compensation is reviewed periodically in this framework, and another review will be held no later than early next year.

★ ★ ★

Q — Is Q and A a one-time effort, or will it be a continuing program?

A — It is not a "one-time" effort and will continue so long as meaningful questions are being submitted. A review of the program's effectiveness by division staff will take place after six months operations. Thus far, questions have been serious and the program appears to be meeting a definite need.

★ ★ ★

Q — Is there any way an hourly employe can put extra money into the retirement fund to increase his retirement pay?

A — Not under the provisions of the current plan. However, additional funds for use after retirement can be accumulated through the Savings and Stock Investment Plan.

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Q — Is any consideration being given by Convair to granting a general increase to salaried employes, including supervision, in view of the rapid rise in the cost of living and the pattern of granting general increases to hourly employes?

A — Not at this time. Management believes that the merit system, which is based on accomplished results, is the most effective and equitable way to compensate salaried employes.

Each year, in developing a merit fund for salaried personnel, a

(Continued on Page 2)

Convair Proposes Improved Atlas

Convair division has proposed development of a new improved Atlas, designated the SLV-3X, to serve as a Centaur booster for launch of heavier payloads at minimum cost in future NASA space and inter-planetary missions.

The SLV-3X would have a larger tank than the current SLV-3C for increased fuel capacity, an uprated sustainer engine and a revised storage system for helium.

Grant L. Hansen, vice president-launch vehicle programs, said the SLV-3X can be produced with a minimum of non-recurring cost and that several presentations have been made to NASA and Air Force officials on the concept.

With Centaur, the SLV-3X could send a 4,400-pound payload to the moon or a 3,300-pound payload to Mars, compared with 2,900 and 2,100 pounds, respectively, for the Atlas SLV-3C and Centaur.

The SLV-3X tank would be 12½-feet in diameter, for an increased 120,000 pounds of usable propellants, tapering to the standard 10-foot diameter for continued use of the present thrust structure and forward adapter.

A 205,000-pound-thrust Rocketdyne H-1D engine such as those now used on the Saturn 1B would replace the current 58,000-pound-thrust MA-5 sustainer. The two MA-5 booster engines would still be used.

Two large externally-mounted helium containers would replace the present eight storage bottles for helium used in tank pressurization during flight.

Present vernier engines would be replaced by four small monopropellant roll-control thrusters mounted on the interstage adapter.

Company-funded studies on the SLV-3X concept have been under way for about a year under the direction of Andrew Kalitinsky, director of launch vehicle programs engineering, and Mel Barlow, manager of vehicle applications engineering.

Key personnel working in design concepts included E. J. Hujsak, chief of preliminary design, and design specialists Alan Schuler and Larry Nelson.

Extension Courses Offered In-Plant For Spring Quarter

Four University of California Extension courses leading toward Professional Designation in the Technology of Information Processing will be offered in-plant at Convair for the spring quarter. Two others, under the same program, will be held at Roosevelt Jr. High.

All are taught by Convair instructors and coordinated by Convair educational services.

In-plant courses, all at Kearny Mesa, are:

Integrated Information Systems, Tuesdays, 5-8 p.m. March 26 through June 11. Room 7, Bldg. 17. Chuck Twohey, instructor.

Introduction to Information Processing and Computer Programming, Thursdays, 5-8 p.m. March 28-June 13. Room 7, Bldg. 17. Fred Schwend, instructor.

Computer Programming, Tuesdays, 5-8 p.m. March 26-June 11. Room 8, Bldg. 17. Schwend, instructor.

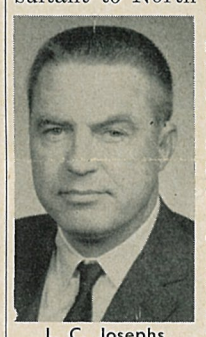
COBOL, Wednesdays, 5-8 p.m. March 27-June 12. Room 7, Bldg. 17. John Hicks, instructor.

Courses at Roosevelt Jr. High are Introduction to Information Processing and Computer Programming, Wednesdays, 7-10 p.m. March 27-June 12; and Design and Implementation of Business Systems for Computers, Tuesdays, 7-10 p.m., March 26-June 11. Both are taught by Robert Swanson.

Convair students may qualify for tuition refunds. For further information contact educational services, ext. 1931 KM.

Lyman Josephs To Head Convair Advanced Design

Lyman C. Josephs III, formerly an executive and aircraft programs director for Ling-Temco-Vought and Martin Co. and consultant to North American Aviation, has been appointed director of advanced systems for Convair division's research and engineering department.



L. C. Josephs

Josephs joined Convair last April and since then has directed a joint Convair - Canadair Ltd. team effort under which a tilt-wing CARA (combat aircrew recovery aircraft) proposal was submitted to the U. S. Air Force.

As director of advanced systems, he reports to E. R. Peterson, vice president-research and engineering.

A 1941 graduate of Harvard University, Josephs served as a Navy lieutenant in the Bureau of Aeronautics in Washington from 1942 to 1946.

While with Chance-Vought and LTV from 1946 to 1965, he served as project engineer for the first carrier-based supersonic aircraft, the F8U-1. He was director of engineering of the Aeronautics division from 1959 to 1962 during development of the tri-service vertical takeoff and landing (VTOL) XC-142A and the Lance missile (then designated Missile B).

Josephs was director of aircraft development for the Martin Co. in Baltimore, Md., from 1965 to 1967 where his responsibilities included development of the SV-5 lifting-body vehicles for the U. S. Air Force.

Three of the SV-5D vehicles were boosted into space from Vandenberg AFB by Convair Atlas SLV-3s last year for re-entry flights down the Western Test Range in the Air Force's PRIME (precision recovery including maneuvering entry) program.

New Library Hours In Effect at KM

New library hours have gone into effect at the Kearny Mesa engineering library in Bldg. 4.

Hours now are from 9:45 a.m. to 4:45 p.m.

Lindbergh Field library hours remain unchanged. They are from 7:30 a.m. to 4:15 p.m.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Feb. 15 and Feb. 29.

Thirty-five year: Dept. 113, J. Doig.

Thirty-year: Dept. 002, W. T. Aleckner Jr.; 149, E. L. Brown; 056, T. Laven; 170, D. O. Wyman.

Twenty-five-year: Dept. 031, C. E. Bolander, J. K. Seid; 149, S. Witkoff; 400, H. B. Bodwell.

Twenty-year: Dept. 015, R. G. Wheeler; 027, W. Baker; 031, P. Stachwick; 141, W. L. Colahan; 250, J. D. Sappington; 400, M. E. Dahl; 401, R. N. Hanby; 761, J. L. Jaussaud; 780, H. D. Eggers; 840, J. K. McKinley.

Fifteen-year: Dept. 015, C. N. Sugiyama; 031, H. L. Redmon, H. W. Yates; 058, H. R. Smith; 113, Hazel D. Schwichtenberg; 193, Ann S. Donnelly; 250, A. W. Matthews, J. C. Slater; 401, E. F. Madden; 529, G. B. Hale; 531, F. F. Marmon; 566, R. J. Lang; 758, G. V. Faz; 831, H. W. Weaver.

Ten-year: Dept. 031, G. R. Hill; 059, J. S. Goncey; 101, June K. Hale, J. E. Staton; 130, R. L. Forrest; 512, R. B. Lovell, B. P. Swett; 515, J. Sterrett; 519, P. Autio; 526, F. H. Chaddock; 574, J. H. Conway; 731, D. R. Anderson; 763, C. L. Baker Jr.; 780, R. R. Lopez, I. D. Mayberry Jr., Shirley S. Patten; 810, G. B. Kipe; 840, D. J. Gallagher.

Dept. 961, D. S. Hackley; 962, J. H. Derango, R. L. Eidson; 966, P. M. Hanna; 979, E. Adkins, Ada B. Billitti, S. W. Brooks, T. J. Dow, E. Lorton, R. F. Noe, N. F. Rhodes, R. L. Rondeau, M. B. Swanson, L. R. Werner, F. J. Weyher; 985, V. M. Madrigal.

ELECTRONICS

Twenty-year: Dept. 101, Georgia P. Wood.

Fifteen-year: Dept. 513, T. A. Powell; 616, B. D. Newbery.

Ten-year: Dept. 105, Frances L. Peterson; 106, J. L. Bigley; 581, R. C. Froeschle; 613, D. W. Bentrott; 713, O. D. Rohrer Jr.; 921, B. M. Lorentz.

STROMBERG-CARLSON

Ten-year: Dept. 8621, K. M. Fendrick.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7. Monday, March 4, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 14 auditorium. Tuesday, March 12, 8 a.m. and 4:30 p.m.

AF Plant 19: ext. 491 LF, Bldg. 3, 1st mezz, Col. B-14 conference room. Thursday, March 7, 8 a.m.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF-STUDY—A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Personals

CONVAIR

Your expressions of sympathy following the death of our husband and father, Wade C. Baker, were sincerely appreciated.

Esther P. Baker and Family.

* * *

We wish to extend our thanks to our Convair friends, especially fellow workers of Dept. 015 at Lindbergh Field and the Con-Trib-Club, for the thoughtfulness and sympathy shown us at the passing of our son, Franc Orrin Harris.

Mr. and Mrs. Baker Harris.

* * *

The family of Donald R. White (Dept. 170-1) acknowledges, with deep appreciation, the kind expressions of sympathy from his Convair friends following his death.

Mrs. Marion White and sons

* * *

My family and I wish to express our appreciation for the sympathy and kindness shown to us by the Convair friends of Dustin D. Parkhurst (Dept. 143, retired) following his death.

Mrs. Jennie M. Parkhurst

* * *

We wish to express our sincere gratitude to all of our Convair friends at both Lindbergh Field and Plant 19 who joined in the surprise party and who contributed toward the beautiful gifts given us following our recent marriage.

Pearl (nee Garrison) Allen
Dept. 045 and
Jim Allen, Dept. 400-1.

* * *

The family of E. B. Stewart gratefully acknowledges your kind expressions of sympathy.

Mrs. E. B. Stewart & Family

* * *

The family of Duke Ramsey wish to thank the boys in Dept. 031-0 for their contributions to the Heart Fund in his memory. They were deeply appreciated.

June, Charles, and David Ramsey.

Notices

CONVAIR

Will the person who submitted the Employe Suggestion concerning the vendor file in Bldg. 4, Kearny Mesa plant, please contact Sarah, engineering blueprint files, ext. 1120 KM.

Rider-Driver

CONVAIR

RIDE WANTED—From El Monte Rd., El Cajon, to Lindbergh Field. 7:30 a.m. to 4 or 4:15 p.m. Call Helen Moore, ext. 464 LF or home, 444-0934.

RIDE WANTED — From Moraga & Tacoma Sts., Clairemont to Lindbergh Field. 7:00 a.m. to 3:30 p.m. shift. Call Leroy Wallick (home) 274-2745.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N. Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Awards

CONVAIR

Employe Suggestion awards approved for the week ending Feb. 9.

Dept. 001-0, F. Heaton, K. Jones, E. Mackey; 015-0, A. Reiter, D. Wallace, D. L. Weelborg (two awards); 027-0, J. L. Killeaney; 141-2, V. M. Sardo, S. L. Wallace; 142-1, J. W. Collins, R. E. Contell, R. N. Rogers; 143-1, J. R. Kennedy, W. D. Kennedy; 144-1, H. C. Cox, W. G. Lux; 144-2, P. W. Haggard, D. C. Walker; 146-4, J. R. Frogge; 149-2, G. W. Ash; 196-0, C. S. Spoden; 250-1, D. E. Belchamber (two awards), G. S. Brooks, M. E. Nicolet (two awards), W. C. White (two awards); 401-5, E. Waryo; 460-0, A. J. Lowe; 756-0, P. W. Brock, W. J. Brunnhoelzl; 761-0, L. L. Ripley, L. Spurgeon; 820-0, F. D. Heflin; 833-2, J. Giamanco (two awards), J. E. Rath; 979-1, C. J. Beverlin, W. K. Forehand; 979-4, C. Serowik; 985-1, G. Shiroma.

Employe Suggestion awards approved for the week ending Feb. 16.

Dept. 001-0, J. H. Hammer, 015-0, A. J. Capuccini, L. W. Tracy; 016-0, M. V. Archibeque, J. D. Godwin-Austen (two awards); 027-0, J. L. Killeaney, A. J. LeBeau; 031-0, C. P. Glover; 101-2, S. R. Awalt; 141-4, J. C. Jolley; 143-1, R. E. Culver, M. M. Henry, H. P. Higdon, J. B. Miller, J. J. Murphy; 143-4, J. A. George, F. B. Shockley, C. L. Yelverton; 143-6, D. A. Falls; 149-2, W. W. Graham; 250-2, S. C. Page; 250-5, F. Tellez; 401-0, R. Provenghi; 401-4, G. R. Dodds; 574-3, J. D. Brooks; 574-5, E. J. Gravelle; 715-0, J. Friel (three awards); 831-0, P. K. Noland; 840-2, L. Kramer, E. Tieszen; 979-3, P. A. Saluter.

Invention Disclosures

CONVAIR

KETCHUM—W. J., Dept. 952-5. Surface Tension Tube for Auxiliary Propellant Supply.

McCANN—J. P. and E. L. CASCO, Dept. 592-0. Astronaut Emergency Pressurization System.

SCHULER—A. L., Dept. 952-5. Multi-Tank Propellant Equalizer.

SCHULER—A. L., and W. J. KETCHUM, Dept. 952-5. Surface Tension Negative Pressure Suppressor.

SMITH—L. O., Dept. 401-5. Cable Sleeve Compressor.

Quality Control Seminar Mar. 30

The San Diego section of the American Society for Quality Control has scheduled its seventh annual quality control seminar for March 30 at Mesa College.

Four from Convair will be among 24 speakers on six seminar panels. They are W. T. Hollar of Dept. 141-0, discussing "What's ahead in quality control education," J. J. Jackson of Dept. 130-4, discussing "Unionism vs. professionalism," Sam Braun of Dept. 144-2, discussing "Receiving inspection aspects of microelectronics," and C. F. McMenamy of Dept. 566-3, discussing "Need for communicating education."

Other panelists will include Claude E. Wilson of NASA's Lewis Research Center resident office at Kearny Mesa who will give a "NASA views micro-electronics" presentation.

A. E. Hinck of the Defense Contract Administration Services plant representative's office at Kearny Mesa is seminar chairman. P. E. Gelles of Convair's Dept. 144-2 is program chairman.

Registration will begin at 8 a.m. and the program is scheduled from 9 a.m. to 3:30 p.m. Cost of $5 will include lunch. Registration forms are available from section officers and boosters.



CRAFTSMEN—Don C. Prim, Electronics-SD general manager (center), awards desk pen sets to, from left, W. C. Forster, W. J. Connors, C. B. Chamberlain, D. F. Nichols, W. J. Creamer, L. G. Pinkel, and H. H. Wilson. Seven were chosen Craftsmanship winners for last half of 1967.

Electronics-SD Honors Seven as 'Craftsmen'

Seven semi-annual Electronics Craftsmanship awards for individual quality performance by employes at the San Diego operations during last half of 1967 were announced this month by R. H. Nicholson, manager of quality control.

General Manager Don C. Prim praised each for outstanding efforts in behalf of the division at the awards ceremony preceding a luncheon at Kona Kai Restaurant. Winners received desk pen sets and silver craftsmanship pins.

C. B. Chamberlain, senior engineer in the data systems group, was singled out for his performance aboard the USNS Vanguard during the Apollo 501 mission last November. He has been commended for outstanding professional performance by the National Aeronautics and Space Administration.

W. J. Connors of engineering liaison was chosen for his accuracy and proficiency in preparing cost invoices, accountability records, reviewing and coordinating of test equipment calibration schedules.

W. J. Creamer, logistics provisioning representative, was nominated for his high volume of work output with negligible error. Despite heavy workloads, he consistently meets schedules, said his supervisor.

W. C. Forster, industrial electrician, was honored for his performance as senior electrician for Electronics-SD plant engineering. His work record is substantiated by the fact that no one has been physically injured, equipment damaged, or time lost due to electrical installations.

D. F. Nichols, electronics engineer, was chosen for his ability to design electronic frequency multipliers of excellent stability, band width, and power output while under compressed schedules and conservative budgets. Through his efforts, it is possible, Electronics-SD officials said, to realize future business in the multiplier field.

L. G. Pinkel, milling machinist, was chosen for his contributions to what was described as "the most difficult machining task ever undertaken by the Electronics-SD machine shop." His suggestion saved manhours and money on the numerical-controlled machining of a docking ring housing-latch made from titanium.

H. H. Wilson, material release analyst, was nominated for his high volume of work output with little error. Wilson was commended for his alertness to configuration changes and maintenance of close coordination with other functions in order to eliminate scrappage and prevent lost manhours due to incorrect material being ordered or stocked.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Continued from Page 1)

comprehensive survey is made to arrive at our compensation plan, which includes adjustment of salary ranges. Factors considered include salaries paid in and outside our industry, changes in the Consumers' Price Index, business trends, economic growth, etc. Management believes a general increase should be limited to situations where our compensation plan indicates a deficiency in overall competitiveness.

★ ★ ★

Q — Why does it take so long after the first of the year to receive our Savings and Stock Investment Plan and retirement statements?

A — Convair makes final payments to Bankers Trust Co. of New York City, Trustee for the Plan, on the Wednesday following the end of the payroll period that included the last calendar day of the year. This year the date was Jan. 10. The Trustee requires 30 days to make year-end calculations of stock-bond values, fund the company's matching portion, and convert their combined trust fund values into individual share amounts. All of this is time consuming.

Preparation of retirement statements, done by Convair, also is a complex task.

★ ★ ★

Q — Will the company ever have an incentive method of advancement through competitive examination instead of the appointment-type system we now use?

A — At this time Convair has no plans for competitive examinations. Convair does use examinations for certain types of positions, such as for applicants for pre-supervisory training, typists, stenographic and certain clerical jobs. These are qualification tests, however, and are not used primarily as the basis for advancement. Convair believes that education, experience and demonstrated performance are the principal factors that should be considered when selecting employes for advancement.

★ ★ ★

Q — Why are flat salaried people paid every two weeks instead of twice a month?

A — Because of policy relative to extended work week (overtime) payments. These are based on hours worked in excess of a standard work week and can be computed only on a week-by-week basis. Payments to salaried employes on a twice-a-month basis would result in split work weeks and accounting would be unable to determine at the end of a pay period whether the employe was eligible for extended work week pay.

★ ★ ★

Q — Was the second performance review for salaried employes in 1967 cancelled? If so, why weren't we told?

A — No, it was not cancelled but rescheduled because of the time involved in redesigning appraisal forms and to include new requirements from Corporate Headquarters. At the time, meetings were held with key management of each department to describe the schedule change. Keep in mind that in addition to normal reviews, supervisors can review their employes — and employes can request reviews — at any time.

Funds For Fatigue Studies Extended

An extension of a contract to study the life of forged aluminum used in aircraft wheels has been received by Convair division from the Air Force.

The follow-on contract received from Hill AFB, Ogden, Utah, contracting agency, is in the amount of $8,837. This brings the total amount of the work ordered under this contract to nearly $48,000.

Initial order was placed with Convair in December of 1966. Completion date now is set for June 30, 1968.

The study is conducted by Clarence Smith, Convair fatigue specialist.

'Seven Wonders' Include Convair Space Launches

Spacecraft launched last year in three separate NASA programs by Convair division Atlas and Centaur vehicles were among the "Seven Wonders in Engineering in California for 1967" named last week by the California Society for Professional Engineers (CSPE).

They were:

Surveyor 5, launched Sept. 8 by Atlas-Centaur 13, which transmitted photos from the moon's surface and used an alpha scattering experiment for first chemical analysis of lunar soil composition.

Applications Technology Satellites, launched by Atlas SLV-3s, which have conducted a wide variety of experiments from synchronous orbit including mapping of cloud cover, ocean currents and soil moisture conditions over a wide area of the earth's surface.

Mariner 5, launched June 14 by Atlas SLV-3 No. 5401, which passed within 2,600 miles of Venus on Oct. 19 after a 217-million-mile flight and returned information on the mass of Venus and its atmospheric density.

Deane Davis, Centaur program manager since 1966 and project engineer since the program's inception, accepted an award certificate for Convair at a meeting Thursday (Feb. 22) at USC at which the "seven wonders" were announced. Convair also was represented at the meeting by Grant Hansen, vice president-launch vehicle programs.

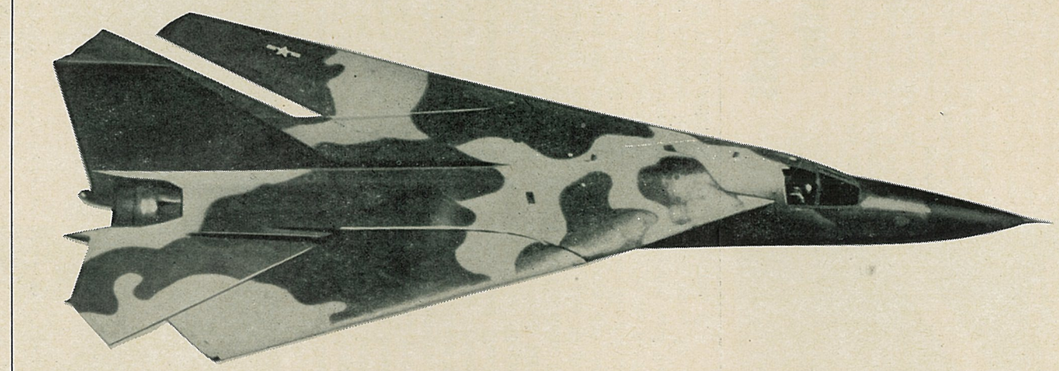
Convair's Centaur high-energy liquid hydrogen vehicle was specifically honored for its role in the Surveyor 5 mission. Awards are to be presented later at local CSPE chapter meetings.

Other projects among the "seven wonders" are the Apollo Saturn 5, the AH-56A Cheyenne helicopter, the Oroville Dam and the San Onofre nuclear generating station.

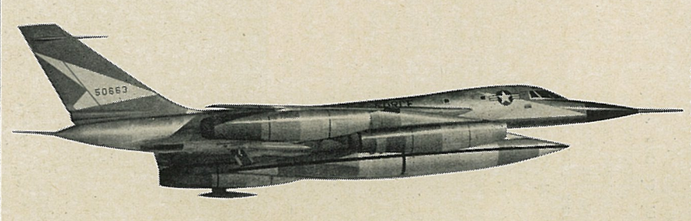
Reproduced on this page is another in a series of advertisements, placed by General Dynamics recently in a number of prominent national publications.

In the last ten years one company has built more fundamentally different aircraft than any other—including the world's first supersonic interceptor, world's first supersonic bomber, world's first operational sweep wing, and world's fastest passenger liner.

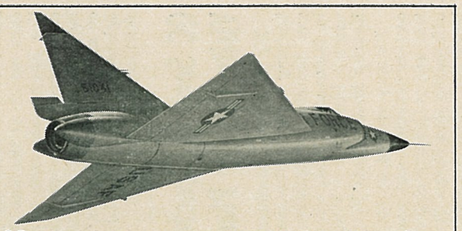
General Dynamics.



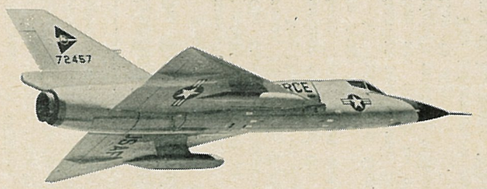
F-111A. Now being delivered to the Tactical Air Command of the United States Air Force. World's first operational variable-sweep wing plane. With wings extended straight, it can take off from short fields. With wings swept part-way back, it can cruise under the speed of sound for long distances. With wings swept back, it can fly over two-and-one-half times the speed of sound. It is being built in fighter, bomber and reconnaissance versions.



B-58. Now operational with the Strategic Air Command of the United States Air Force. World's first supersonic bomber can fly better than 1,300 miles per hour at altitudes of 60,000 feet, or more. It is designed to fly intercontinental distances and deliver nuclear weapons. The B-58 has been in operation with the Strategic Air Command of the United States Air Forces since 1959.

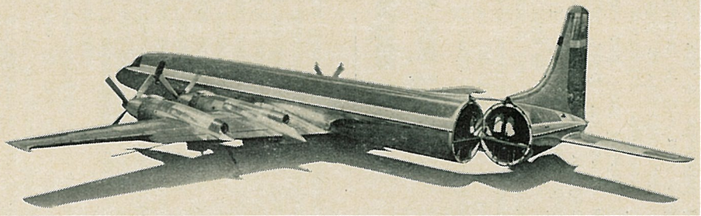


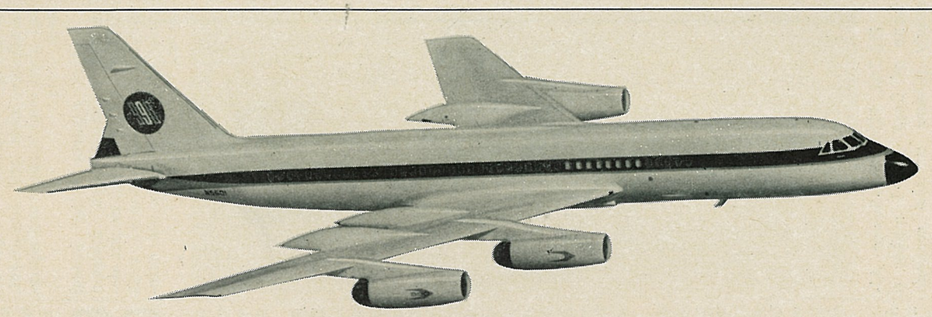
F-102. Now serving overseas. World's first all-weather supersonic interceptor. It was designed for the United States Air Forces to seek and destroy invading high-speed aircraft before they can reach their target.



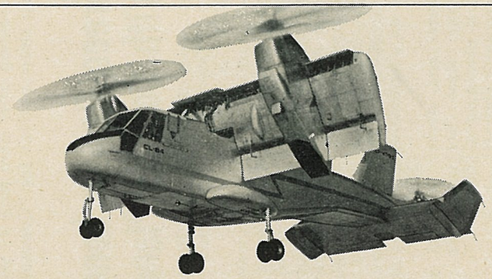
F-106. Now operational with the Air Defense Command of the United States Air Force. A later, faster sister to the F-102. In 1959, it was clocked at 1,525.95 miles per hour—or 2.3 times the speed of sound.

CL-44. Now carrying freight around the world. It is the first aircraft designed specifically for airfreight. The swing tail reduces loading and unloading time because of unobstructed access to the fuselage, and permits carrying longer and larger objects than possible with conventional aircraft.

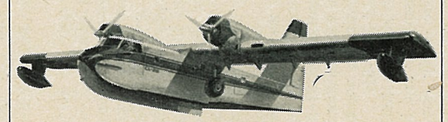




Convair 990. Now flying throughout the world. It is the world's fastest commercial jet liner. Carries 121, cruises at 640 miles per hour. The 990 can be distinguished from all other jet passenger liners by two "speed capsules" on the trailing edge of each wing. The capsules decrease drag by lessening shock waves.



CL-84. Now in development production. It combines features of the helicopter and fixed-wing plane. With wing, engine and propeller unit tilted straight up, it can take off or land vertically. With partial wing tilt, it can take off from short fields with heavy payload. With wings and engine positioned horizontally, it can fly as fast as 300 miles per hour.

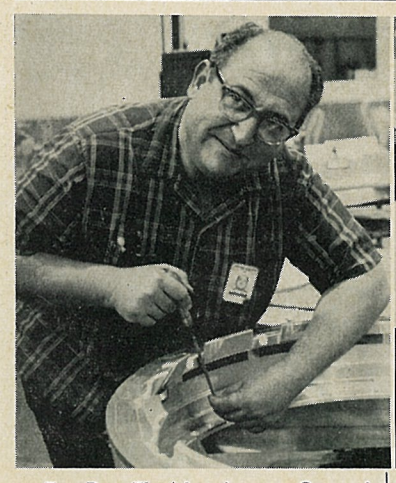


CL-215. Now in production for France and the Province of Quebec. First new amphibian to be built in 30 years. Can be used for water bombing, search and rescue, patrol, cargo, crop dusting or spraying. It can scoop up about 5,500 liters of water as it taxis across a lake, take off, then drop water on fire area in an uninterrupted flight.

GENERAL DYNAMICS

One Rockefeller Plaza, New York, New York 10020

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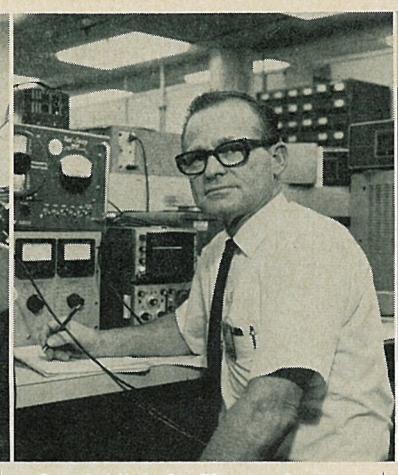
E. D. El Nassi, a Convair Dept. 452-0 second shift tool and die maker, puts finishing touches on engineering test model of new Apollo docking ring at Kearny Mesa plant. A native of Egypt, he formerly operated a machine shop and custom jewelry manufacturing firm in Cairo. He lived in Paris, France, and worked as a laboratory machinist at Carnegie Tech in Pittsburgh, Pa., five years before joining Convair a year ago. El Nassi recently completed a citizenship course at Midway Adult School. He lives in Pt. Loma with his wife and three children. English, French and Arabic are spoken in the home.



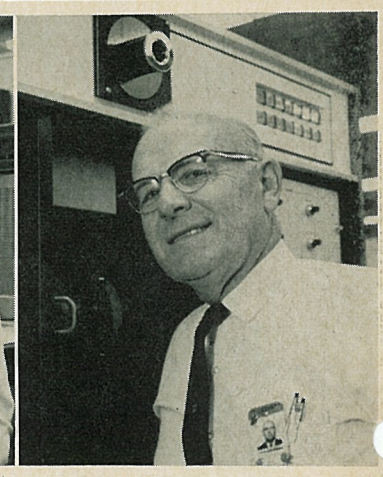
Charles Sanford is nearing the half-way mark of an eight-month training program on the Wadkin cavity mills recently installed at Air Force Plant 19 for work on F-111 parts. He was one of the machinist trainees selected for the training last fall and is on second shift. He was graduated from San Diego High in 1963 and went on to Southwestern Junior College at Chula Vista. He received an Associate of Arts degree in police science. He then attended Kansas State University for a year on an athletic scholarship. He and his wife, Joy, are active in their church, New Bethel Baptist, and both sing in the church choir.



Phyllis Ruggles has been a tool and cutter grinder at Convair for 17 years. She learned the trade on the job after she hired in. For many years she was assigned to the main tool crib on the mezz in Bldg. 1 at Lindbergh Field plant, but now is in Bldg. 32 where tool service was moved last summer. She is shown sharpening a step drill on a RO grinder. She grinds all types of perishable tools, including reamers, countersinks, counterbores, and also taps others. She makes her home in the Allied Gardens area. Her son is serving in the Army and now stationed in Germany. Her daughter is married and lives in Yuma, Ariz.



Frank Nichols, Electronics operations in San Diego, is temperature testing a frequency multiplier in the range instrumentation lab. Nichols has been with General Dynamics 12 years. He was with the Astronautics electronics section until about three years ago when the group assigned to Azusa and Glo-Trac was transferred to Electronics division. Nichols and his family live in Allied Gardens. He and his wife, Lillian, like to go dancing when they can get away from home chores. They have five children: a son in the Air Force, a married daughter, and three still at home —two sons, 17 and 11, and a daughter, 6.



Gene McCale, quality control engineer at Stromberg-Carlson's Data Products division, sought the sun in Southern California last year after some 18 years at the Rochester division. There he had held the positions of superintendent of the assembly division and supervisor of security. He and his wife, Phyllis, enjoy water sports around San Diego and spend a great deal of their free time on their 37-ft. cabin cruiser which they keep berthed at Seaforth Marina in Mission Bay. Their daughter lives in Long Beach where her husband is stationed and their son is in the Navy attached to a missile tracking ship now at Cape Kennedy.

Schneider Doubles In Pistol Shooting

Roland Schneider topped both the 22-cal. Police event and Short National match in CRA Pistol Club competition Feb. 11. His score in the Police Course master division was 287. He shot a 257 to win the Short National.

Jim Halfacre also scored a 287 in the master's, but Schneider's 10 Xs outpointed Halfacre's 3 bull's-eyes.

Bill Dittmann scored a 282 to take first in the expert division. Warren Walker was runner-up with 281.

Walker also stood in second place in the Short National with a 208. Russ Frazier, a new participant in the group, shot a 174 for third. Dick Sutton was in fourth spot with 135.

Club matches, held the second and fourth Sunday mornings of each month at the San Diego Police Range, are open to all General Dynamics people and members of their families. Call Walker at ext. 1104 LF, first shift, or Schneider, ext. 1564 LF, second shift, for information.

QC Society Director Visits Convair Plants

Hy Pitt, national education and training director for the American Society for Quality Control in Milwaukee, Wis., visited Convair's Lindbergh Field and Kearny Mesa plants Feb. 16.

He was briefed on local ASQC section activities and quality control and reliability courses being offered by San Diego Junior Colleges by seven members of the local section—L. I. Medlock, L. I. Fredrickson, P. E. Gelles, Roy Gilliland and William Hollar, all of Convair, and John Mraz and Al Hinck of the Defense Contract Administration Services plant representative's office.

Briefing Scheduled On Trip to Spain

First briefing on this summer's trip to Spain is set for tonight (Feb. 28) at 7 p.m. in the Convair executive dining room, Lindbergh Field.

Jim Hardison of Convair will outline details of the two-week tour. Tour dates are Aug. 10 to Aug. 24.

All interested General Dynamics people and their families are urged to attend tonight's meeting without obligation to sign.

For information call Hardison at his home, 276-5805.

Photo and Reproduction Costs Under Conservation Scrutiny

Reduction of departmental indirect-budget costs for photography and reproduction services by $110,000 is one of this year's goals under Convair division's new Conservation Program.

In this "account 64" category, one of six due for close scrutiny and cost savings effort under the program, are costs for printing, blueprints, photostatic prints and other photo and reproduction services—including such services procured from vendor sources.

The research and engineering department is preparing a list of photo and reproduction service costs for publication and is to review high-cost fringe-benefit items for possible discontinuance.

Typical processing costs are to be posted at service counters to remind requestors of the need for economy. Normal time for each photo and reproduction process also is being determined and a surcharge is to be assessed when expedited service is requested.

The $110,000 division-wide cost savings goal in the photo and reproduction category represents a reduction of 12.5 per cent of the $875,000 budgeted by all departments for the year.

Total goal for the Conservation Program is reduction of indirect costs in the six different categories by an aggregate of $1 million during the year.

Other categories include travel, operating supplies, telephone, perishable tools and equipment, and plant maintenance and equipment costs.

Budget reports being issued monthly enable each division staff member to compare his department's expenditures with goals in each of the six categories.

Open Horse Show Set For March 10

First open horse show sponsored by Convair's Riding Club this year has been set up a week, from March 17 to March 10, to avoid conflict with other events in the San Diego area.

Gymkhana will start at 8:30 a.m. that Sunday morning in the CRA horse ring at Missile Park. The afternoon will be devoted to equitation. There will be ten classes in each division with trophies for winners in each class. Ribbons will be given through sixth place in the open classes and ribbons through tenth in the junior classes.

Rusty Hunter, Escondido horse trainer, will judge equitation.

Entry fee is $1 per person for each class. However, all who turn out on Saturday, March 9, to spend 2½ hours helping get the ring in shape for the show will have their entry fees cut in half. The work party starts at 9 a.m.

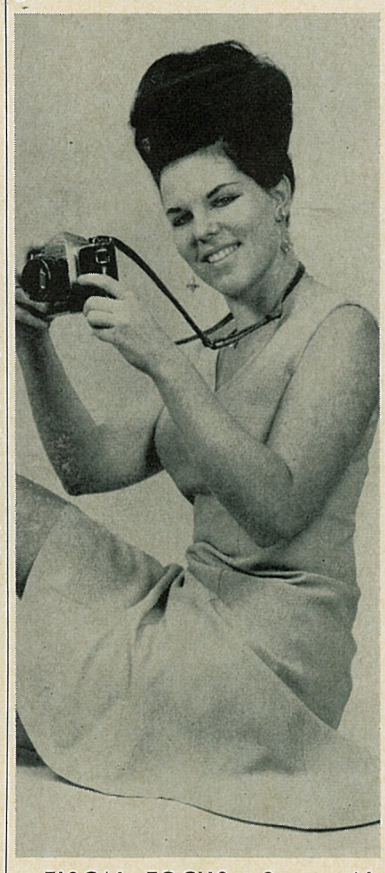
Clyde Donahoo and Judy Watson are show chairmen; Bud Donahoo and Steve Payne, announcers.

QC Section Elects Gelles and Petcher

Two Convair men have been elected to top positions in the San Diego section of the American Society for Quality Control for the 1968-69 year.

Paul E. Gelles, a supervisor in procurement quality verification Dept. 144-2, will serve as chairman, and Sam Petcher, a senior reliability engineer in Dept. 140-2, as vice chairman.

Installation of the new slate of officers will be scheduled in July.



FISCAL FOCUS—Susan Albone of Dept. 101-1 makes a pretty picture as she reminds Convair employes that photo and reproduction costs are among six indirect-budget categories due for close scrutiny in division's new Conservation Program.



REMINISCENCE—G. Garner Green, Convair's chief of structural analysis, who is retiring after more than 39 years, recalls his "first big job" of wing stress analysis for "Commodore" flying boat in 1929.

Garner Green Recalls Long Career With Convair Planes

G. Garner Green, chief of structural analysis for Convair division (Dept. 578-0) is retiring next month after more than 39 years service with the company.

After answering an Aviation Magazine ad from the then little-known Consolidated Aircraft Co. in Buffalo, N.Y., shortly after receiving his aeronautical engineering degree from Stanford in 1928, Green was hired as a structural engineer.

Green's structural and stress engineering career since has closely followed a chronological history of the company's aircraft programs: Fleet trainers, Fleetsters, P2Ys, XP3Y-1, PBYs, PB-2As, Coronado PB-2Ys, B-24s, XB-32, XB-36, XC-99, 240, 340 and 440 liners, F-102 and 106, Pogo, Sea Dart and 880 and 990 were among them.

He will never forget the early days when he and his boss, the late Roy Miller, were the company's only fulltime stress engineers and his "first good-size job" of doing stress analysis on the wing of the "Commodore" flying boat. He was on board, too, when the first of the 14 manufactured was flown to New York for delivery.

And there are memories of long and hectic but satisfying days when the Consolidated 21-A, a totally new plane, was designed, built and flown within six weeks during the winter of 1930-31.

He has seen vast changes both in the size of the company and in technology since the early days in Buffalo when, he recalls, Maj. Reuben Fleet, the company president, knew every employe by name.

Green moved to San Diego with Consolidated in 1935 and was named chief structures engineer in 1943, chief of stress in 1949, chief structures engineer again in 1952, an engineering staff specialist in 1964 and chief of structural analysis in 1966, the year his offices were moved to Kearny Mesa.

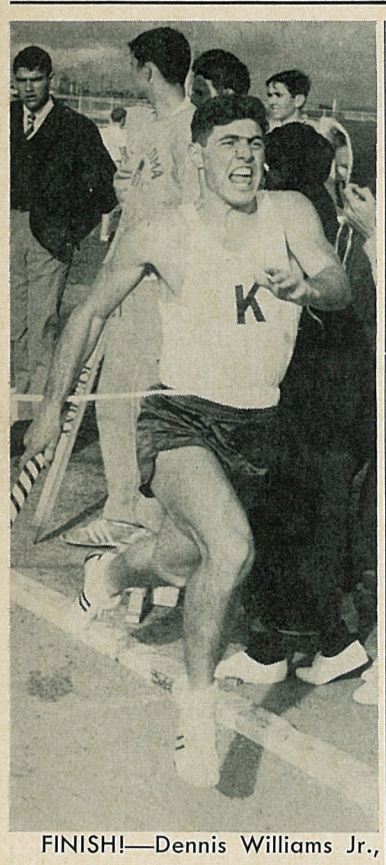
He was one of 13 employes who, with their families and three PBYs, were sent to Taganrog, Russia, in 1937 for a year to convert plans for the PBY to metric units for production there.

Green and his wife, "Bennie," are leaving March 13 to visit one of their daughters in Englewood, N.J., then will fly to Lisbon to begin a leisurely seven or eight-month driving tour of Europe. Their son, Garner Jr., a Marine corporal now in Viet Nam, plans to meet them in Spain while on leave.

Hospital Receives $91 From Dept. 553

Members of Convair's Dept. 553 have received a letter of appreciation for a $91 gift made to Children's Hospital during the Christmas season.

The department employes each year send a donation to the hospital in lieu of exchanging Christmas greetings. The contribution is earmarked for purchase of permanent equipment for the hospital.



FINISH!—Dennis Williams Jr., Convair son, breaks tape in last lap of relay race. Photo was taken at school meet last spring.

Sprinter Scores In Track Meet

A fast-running Convair son, Dennis Williams Jr., sped to two firsts in the San Diego Indoor Sports meet's Junior Division early this month when top track men from San Diego high schools attempted to shatter national marks.

He ran the 60-yd. dash in 6.4 and, as a member of the San Diego West relay team, was credited with a win in the 640 relays.

Dennis, or "Gomer" as he's dubbed by his schoolmates, is the 18-yr.-old son of Dennis Williams, multilith operator in Convair Dept. 400-6.

Now a senior at Kearny High, he has been taking part in track since he was in junior high and has been knocking down firsts and seconds in inter-school events the last two years. A pulled thigh muscle last spring slowed him down to third place in the California Interscholastic Federation meet in June.

Dennis, a husky 5-ft. 10-in., 145-pounder, plays fullback on the school's football team, too.

Classes Start Soon In Round Dancing

Classes in round dancing start next Tuesday, March 5, under sponsorship of the CRA Square Dancing group.

Sessions will be held Tuesday nights for approximately 20 weeks, 8 to 10 p.m. in the CRA auditorium, Kearny Mesa, under direction of Clarke and Aillene Elliott.

Registration will be accepted at the first three sessions.

For information call Pearl Allen, ext. 1468 LF.

Leo Heyob to Head Miniature Railway

Leo Heyob of Lindbergh Field plant is new president of the Pacific Railroad, miniature railway at CRA Missile Park, for the 1968 term of office. Charles Fisher of Stromberg-Carlson Data Products is vice president and Keith Bennett of Kearny Mesa plant was elected secretary-treasurer.

The railroad, operated for the enjoyment of employes' children, will start its runs for the season in mid-April. It is in operation on weekends during the summer months.

Is it news? Pick up a phone and call GD/NEWS

Record Turnout of 209 Drawn to Golf Tourney

Robert Evans won the top prize of a golf bag in Feb. 17-18 CRA links play which drew a record turnout of 209 to the Rancho de los Penasquitos course.

And, the number playing was not only the largest in recent months, but also the most conscientious. Commissioner Del Dimmitt said that all but five kept their assigned times.

Dimmitt and his golf committee praised CRA golfers for the near-perfect attendance. They said that there will be no problem in reserving a wide variety of different courses if this performance is maintained.

Evans (Dept. 967-9) shot a net 59 to finish as overall winner. Runner-up John Simpson (Dept. 967-0) was just two strokes back of Evans. Aaron Roberts (Dept. 420) was third with a net 63.

Gerry Cox of Dept. 001 was first in flight No. 1 with a net 64. Russ Davis (Dept. 020) was runner-up with a 67.

Second flight winners were Bill Whitley (Dept. 584), first, 63; Tom Weiks (Dept. 005), second, 65.

Third flight was won by Alvin Johnson (Dept. 587), 65. Joe Hooker (Dept. 701) was runner-up with a 68.

John Beam (Dept. 420) and Sam Veneziano (Dept. 115) shot 64s to tie for first and second spots in the fourth flight.

Paul Giard (Dept. 526) scored low net of 63 to win fifth flight. Robert Sheffler (Dept. 015) was second with 65.

Ray Soper's 65 was good for first in the sixth flight. Soper is in Dept. 115. Bud Swindall (Dept. 059) was one stroke behind with a 66.

Next Golf Will Be At Singing Hills

Sign-ups start today (Feb. 28) for the next CRA golf tournament which will be March 9 and 10 at the new 18-hole course at Singing Hills.

Deadline for reserving starting times is next Thursday, March 7. Call ext. 511 LF.

Golfers who find that they can not keep their appointed times are asked to notify ext. 511 in advance of the tourney.

Hole-in-One Scored By Betty Jackson

Freda Magargal and Betty Jackson were top scorers at the GD Women's Golf Club's tourney played Feb. 10 at Mission Bay course.

Betty also scored a hole-in-one on the fourth hole.

Other Flight A winners besides Freda were Agnes Sliger, second, and Jeannine Letzring, third.

Dorothy Johnston was runner-up in Flight B and Vi Gilbert finished third.

Next monthly match will be March 9 over the short 18-hole course at Singing Hills. A business meeting and buffet luncheon will follow the tournament.

Membership in the club is open to all General Dynamics women employes or their dependents interested in playing golf. Tournaments are held the second Saturday of each month. Those interested may contact Flo Kell, 281-4652, or Doris Parker, ext. 583 LF, for further information.

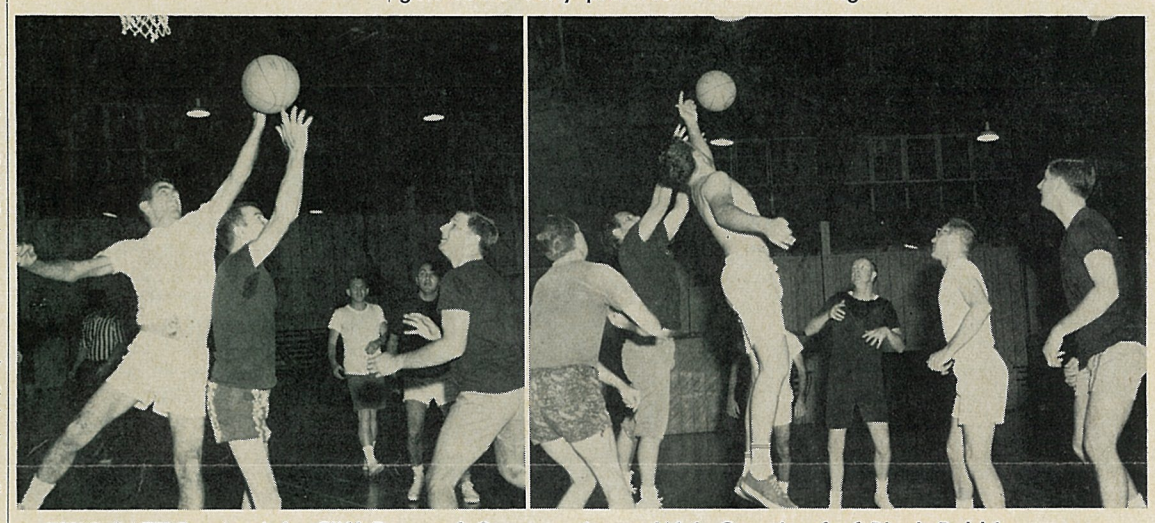
Donahoo Elected By Riding Club

Clyde Donahoo will direct CRA Riding Club activities as president after new officers are seated April 1. He will succeed Scotty Payne, outgoing president.

Others chosen at this month's election are Marian Underwood, vice president; Sylvia Kennelly, secretary; and Adelaine Donahoo re-elected treasurer.



STARTING EARLY—Mike Shores, 4, son of Jim Shores of Gyros gets some early practice in ball handling.



TITLE BATTLE—At right Cliff Detty of Gyros outjumps Walt Grosskopf of Black Rabbits to get possession of ball in play-off for Convair slow break league title. Gyros won, 31 to 25. At left, Tony Iaria of Gyros takes ball away from Floyd Plien of Black Rabbits.

Openings Reported in Club's Sailing Instruction Classes

Convair's popular Sailing Club is opening its monthly instruction courses to new members. Courses, which usually have a long waiting list, now have openings for beginners, CRA Commissioner Jerry Toyen said.

Next series will start the second Tuesday in March under direction of Norm Reed, chief of instruction for the club. Sessions are held three Tuesday evenings at 7:30 p.m. in CRA Clubhouse. Actual sailing instruction is held on two Saturday mornings.

The sailing courses, which run continuously under Reed's direction, cover basic sailing, nomenclature, rules of the road, and safety afloat.

Six of the club's 21-ft. fiberglass Victory sloops are used for lessons. The other three Victory boats and the larger 24½-ft. Ensign are reserved for club members' use.

All Sailing Club members must take the course before they are allowed to check out the club's boats for private use.

Membership is $3 per year. Members of employes' families, 16 years of age and over, may join as associate members, without voting privileges, at $1 a year.

Regular monthly meetings are held the fourth Wednesday of each month at 7:30 p.m., at the CRA Clubhouse.

To sign for membership and sailing instruction, call Toyen at ext. 1685 KM, or attend any of the club's Wednesday evening meetings.

Gyros Outplay Black Rabbits

Gyros outplayed the Black Rabbits to take the league title in CRA slow-break basketball play in the deciding game Feb. 15 on Muni Gym court. Score was 31 to 25.

Gyros had won the first half while Black Rabbits came out ahead in second-half play.

Winner of the fast-break hoop league was undecided at press-time, though play-off games last weekend could have decided the title-holder.

Second half ended in a three-way tie with Flight Control, Underbrush, and the Road Runners finishing neck-to-neck. Flight Control beat the Road Runners in an elimination game, and were scheduled to try its luck against Underbrush last Saturday.

Underbrush still had a first-half game to make up with Cosmos which could tangle the title decision. If Cosmos won, another play-off will be scheduled.

Earl McDaniel Elected Fishing Club President

Earl McDaniel heads the new slate of officers for the CRA Fishing Club selected at the Feb. 20 meeting.

Phillip Poche is vice president; Virginia Lopez, secretary; and Agnes McDaniel, treasurer.

Membership dues for the 1968-69 club year are due. Members must be paid up to be eligible for prizes in monthly fishing contests.

Registration forms are available from members and club officers and at meetings. McDaniel may be reached on ext. 1067 LF, or Poche at ext. 1981 LF.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is March 5. Call ext. 1071 LF or ext. 3322 KM.)

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BADMINTON — Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park. Al Van Norman, ext. 1371 LF.

BICYCLE CLUB — 50-mile San Pasqual valley ride March 9. Leave Poway at 9 a.m.

BONAIR FLYERS—Meeting March 5, 7:30 p.m., CRA Clubhouse.

CAMERA CLUB—Meeting March 6, 8 p.m., CRA Clubhouse.

CERAMICS — Meetings Tuesdays and Thursdays, 7-10 p.m., CRA Clubhouse.

CHESS—Play Wednesdays, 7:30 p.m., CRA Clubhouse.

CHORUS—Rehearsals Tuesdays, 7:30 p.m., CRA Clubhouse. Call Jim Pate, ext. 3034 KM; Jo Anne Bray, ext. 1091 LF; or Walt Minor, ext. 1111 KM after 4:30 p.m.

DELTA DIVERS—Meeting March 13, 7:30 p.m., CRA Clubhouse.

FENCING—Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FISHING—Meeting third Tuesday each month at Gillespie Field Clubhouse. Potluck dinner, 6:30 p.m.; meeting, 7:30.

GARDEN CLUB — Meeting March 6, 7:30 p.m., CRA Clubhouse. Corsage instruction. Open to public.

GOLF—Entries open now until March 7 for CRA tourney, March 9-10, Singing Hills. Call ext. 511 LF.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Mondays through Fridays; 10 a.m. to 5 p.m., Saturdays. Call ext. 1111 KM.

HI-FI/MUSIC — Meeting March 12, 7:30 p.m., CRA Clubhouse.

ICE SKATING — Big Bear Weekend, March 1-3. GD family skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

MINIATURE RAILROAD—Work sessions Saturday mornings, meetings at noon first Saturday each month, CRA Missile Park. Al Kent, ext. 3314 KM.

MODEL HO RAILROAD—Work sessions 9 a.m. Saturdays and 7:15 p.m. Tuesdays, CRA Missile Park. Dave Fyffe, ext. 2101 KM.

PISTOL CLUB—Club shoot March 10, 9:15 a.m., SD Police Pistol Range.

RADIO CLUB—Meeting March 7, 7:30 p.m., CRA Clubhouse.

RIDING CLUB—First open show of year changed to Sunday, March 10, CRA horse ring. Work party March 9, 9 a.m. Meeting March 13, 7:30 p.m., CRA Clubhouse. Swim party Mission Beach Plunge March 16.

RIFLES—Senior shoot March 13, 7:30 p.m.; junior shoot March 2, 1 p.m., Gillespie Field.

ROCKHOUNDS — Meeting March 13, 7:30 p.m., CRA Clubhouse.

SAILING — Instruction classes each month. Meeting fourth Wednesdays, 7:30 p.m., CRA Clubhouse. Call Jerry Toyen, ext. 1685 KM.

SCULPTURE—Workshop sessions Mondays, 7-10 p.m., CRA Clubhouse. Open to all General Dynamics employes.

SKI CLUB—Meeting March 5, 8 p.m., Catamaran Hotel.

SPORTS CAR CLUB—Meeting March 13, 7:30 p.m., Convair executive dining room, Lindbergh Field.

SQUARE DANCING—Round dance instruction starts March 5, 8-10 p.m., CRA auditorium.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m., CRA Clubhouse.

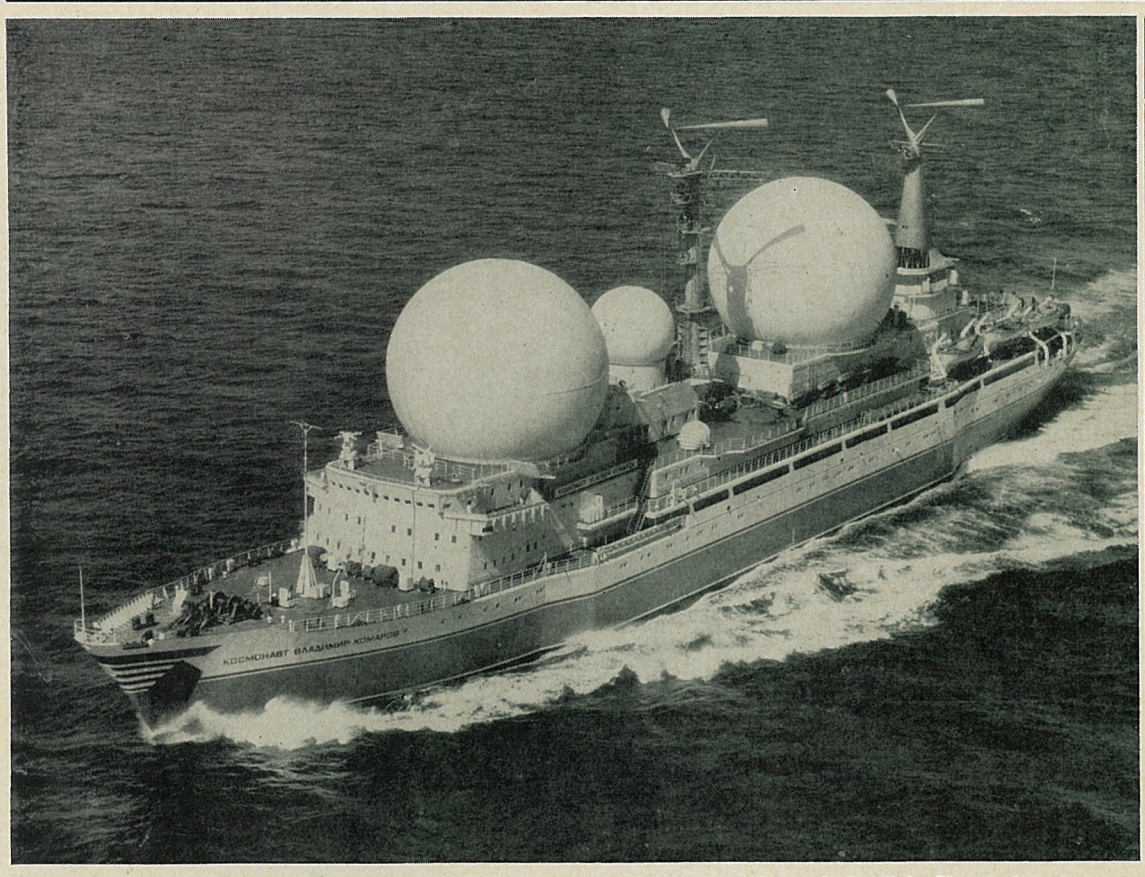
TRAILERS—Travelers meet March 5, 7:30 p.m. Call Virg Marshall, ext. 2144 LF.

TROPICAL FISH—Meeting March 11, 7:30 p.m., CRA Clubhouse.

WOMEN'S GOLF—Tourney March 9, Singing Hills.

Salvage Schedule

Next sales day for GD employes at the Convair salvage yard, Lindbergh Field plant, will be Saturday, March 2. Sales hours are from 8 a.m. until noon every fourth Saturday. Children are not permitted inside the yard.



SOVIET MOON SHIP—"Cosmonaut Vladimir Komarov" moves through English Channel on way to South Atlantic. Equipment aboard vessel is believed similar to that carried on Quincy-built Apollo Instrumentation Ships. Two large domes apparentlyhouse 30 or 40-ft.-diameter radars for in-orbit tracking as well as communicating with spacecraft. Smaller dome is believed to contain a 12-ft.-diameter radar for re-entry tracking. According to Aerospace Technology magazine, ship is 520 ft. and has a gross tonnage of 17,680, making it smaller than Apollo ships' 595 ft. and 22,310 tons. Besides tracking spacecraft, ship carries oceanographic gear and probably snoops on U. S. space and missile programs. Komarov is one of nine Soviet tracking ships stationed in Atlantic, Pacific and Indian Oceans. (Skyfotos.)

Five Electronics Suppliers Honored For Top Workmanship

Five company suppliers of the San Diego operations of the Electronics division were chosen for special honors at the first Supplier Zero Defects Award presentation held last week.

General Manager Don C. Prim said that the awards, presented for "defects free" performance during a six-month period, were significant in demonstrating the cooperation between the company and its vendor companies.

"It is good business for both of us," he said in explaining the importance of quality performance during every step of production.

Companies receiving awards were Electralab Electronics Corp., Encinitas, Calif.; General R. F. Fittings, Inc., Stuart, Fla.; Gopic Designs Co., San Diego; Sage Electronics Corp., Pittsford, N.Y., a subsidiary of Gulton Industries, Inc.; and Vanguard Electronics Co., Inglewood, Calif.

G. G. Prentice, manager of operations, said that the products these companies supply range from precision close tolerance resistors to electronic modules.

R. H. Nicholson, manager of quality control, established criteria used in evaluating suppliers that includes delivery on schedule, volume of deliveries, and complexity of product.

Cdr. M. M. Brown of the DCAS headquarters, San Diego Area, added his praise to that of Electronics-SD officials.

Representatives of the five companies were presented with plaques and certificates of achievement at the presentation Feb. 19, preceding a luncheon at Town and Country in their honor.

Swim Nights Begin At Mission Beach

Monthly swimming nights have begun again for General Dynamics families. They are held the third Saturday evening, 7 to 9 p.m., at the Mission Beach Plunge. Next family night will be March 16.

A charge of five cents is levied for tickets available from employe services outlets at all plants.

The same fee will be charged for tickets to roller skating nights the third Monday of each month at Skateland, Front and G Sts. Next roller skating night is March 18.



TOP SUPPLIERS—D. C. Prim, general manager of Electronics-SD (standing left), Cdr. M. M. Brown of DCAS, San Diego Area, recognize representatives of outstanding suppliers at Zero Defects Award presentation. Receiving awards, around table from left, are W. E. Zimmerman of General R. F. Fittings; R. F. Martin, Electralab Electronics; G. O. Pickens of Gopic Designs Co.; and M. A. Stolaroff, Sage Electronics Corp. Fifth supplier honored, Floyd Shinder of Vanguard Electronics, was not present.

Convair and SAAMA Coordinate on F-106

A team of Convair representatives met the middle of this month with F-106 system support officials at San Antonio Air Materiel Area, Kelly AFB, Texas, at the first in a series of F-106 maintenance/management review meetings.

C. S. Brandt, F-102/F-106 program manager for Convair, B. F. Ferguson, S. B. Stevens, and G. P. Williams gave presentations for Convair.

The F-106 reviews will be held once a year to allow Convair and SAAMA to continue their close coordination on the aircraft. In addition, another type of review, called IROS (for increased reliability of operating system) will be scheduled at SAAMA every six months on both the F-106 and the F-102.

First F-106 IROS will be held in July.

Initial maintenance/management review on the F-102 is set for April.

EX-CONVAIR MEN SERVING IN VIET

Bill Ochodnicky, community activities manager for the Convair Management Club, has been receiving interesting letters from former Convair employes now in service in Viet Nam and elsewhere around the globe as a result of having sent them copies of the Managair and **GD/NEWS.**

Frank G. Ryan, a Marine lance corporal in Viet Nam and former Dept. 401-3 employe wrote:

"Tell the people of General Dynamics to keep up the good work in the aircraft departments," he said.

Pfc. Samuel E. Ferguson, also in a letter received last week from Viet Nam, described his duties with armored transport carrier boats.

Ferguson said it helps morale to keep up with activity at Convair.

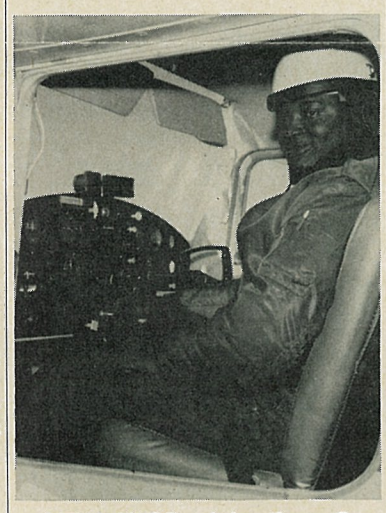
Briefing Conducted For Four Visitors

Two officers from the Air Force Space and Missile Systems Organization's Re-Entry Systems Directorate at Norton AFB, Calif., Col. John J. Anderson and Col. E. J. Brechwald, and Dr. Elliott Katz and Don Schutt of Aerospace Corp. visited Convair's Kearny Mesa Plant Feb. 14 for a Convair capabilities orientation and discussion on boost and post boost vehicle technology.

DISPATCHER EARNS PILOT'S LICENSE

A young man, who works at Convair as a dispatcher, has received his commercial pilot's license after a year and a half of study and training.

John Fort, 31, in spares stores at Convair's Lindbergh Field plant, said that he had yearned to fly a plane since he was a youngster in Arkansas and watched World War II training planes fly over his home.



NEW PILOT—John Fort, Convair dispatcher, who recently earned commercial pilot's license, is snapped in cockpit of Cessna 150.

Besides his flight training, Fort has kept up his studies at San Diego City College. He has 46 units toward an Associate of Arts degree in aerospace engineering.

However, it meant keeping a tight schedule. He sandwiched in flight hours in late afternoon before checking in for evening classes at City College.

He now is expanding his flight training with instrument and multi-engine rating courses.

Bicycle Club Slates 50-Mile Valley Ride

Agostino Arcidiacano has been appointed new vice president and ride manager for the CRA Bicycle Club. Club members have scheduled a 50-mile San Pasqual Valley ride, March 9, beginning at 7:30 a.m. from Poway and Pomerado Roads in Poway.

The ride will take the group past Ramona, the San Pasqual Valley, Lake Hodges and Green Valley. Additional information can be obtained by calling David Lukens, ride leader, ext. 2881 KM or (home) 277-7350.

HANSEN ATTENDS DEFENSE COURSE

Grant L. Hansen, Convair vice president-launch vehicle programs, was one of 10 industrial officials who recently attended the first week of a 10-week Defense Weapon Systems Management Center course at Wright-Patterson AFB, Ohio.

The course is designed to prepare colonels, lieutenant colonels and key civilians from the Department of Defense, other govmental agencies and defense industries for major weapons systems management.

Featured speakers included Lt. Gen. W. B. Bunker of the U.S. Army Materiel Command; Maj. Gen. Joseph Cody Jr. and Maj. Gen. John McCoy of the U.S. Air Force Logistics Command headquarters; Rear Adm. Jackson D. Arnold, vice chief of Naval Materiel; Brig. Gen. A. M. Burdett Jr., USA, of the Office of the Secretary of Defense-Research and Engineering; Brig. Gen. W. W. Snavely, USAF, of the Office of the Secretary of Defense-Installations and Logistics; Philip Whittaker of IBM; Martin Meyerson of the Martin Co., and J. Louis Powell of Georgia Institute of Technology.

SAVE and ASQC Plan To Meet March 11

San Diego sections of the American Society for Quality Control (ASQC) and the Society of American Value Engineers (SAVE) will hold a joint dinner meeting March 11 at the Bronze Room in La Mesa.

Bruce W. Olson, quality assurance manager of the Rohr Corp.'s Riverside facility will talk on "Quality Assurance Program for Adhesive Bonded Assemblies."

He will discuss overall controls for structural adhesive bonded aircraft components, including quality assurance pre-plan, detail parts acceptance criteria, tool fabrication concepts, qualification and periodic requalification, laboratory testing, and finished product acceptance.

Dinner reservations can be made through Dick Lowe, ext. 1327 KM, or Warren Ridge, ext. 752 KM.

WILSON VISITOR AT LINDBERGH

Representative Bob Wilson (R. San Diego) visited Convair's Lindbergh Field plant Feb. 16 for a briefing on the division's aircraft programs.

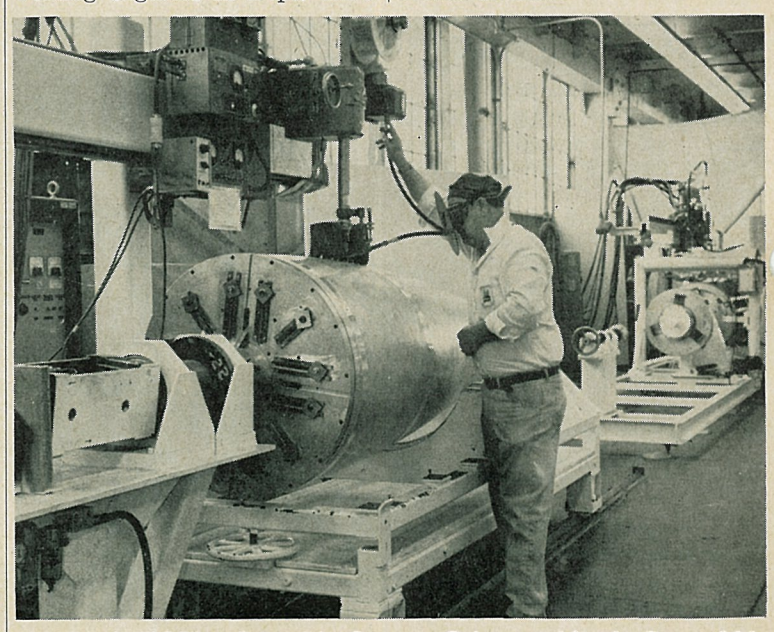
Two New Machines Installed For F-111 Tank Production

Two new automatic, voltage controlled welders have been installed in Convair's F-111 fuel tank production area at Lindbergh Field in an updating of the division's welding equipment.

The power source is changed from DC straight polarity to AC balanced wave to eliminate manual cleaning and hand scraping after welding, and, most important, the weld is of X-ray quality, explained W. M. Walker, welding engineer in Dept. 491-0.

The equipment, built to Convair's specifications, was purchased from Linde division of Union Carbide.

Two automatic weld stations are located end-to-end in the Bldg. 1 production area. One will be used for welding of nose cone sections to nose cone rings; the other, for joining of center sections of the F-111 external fuel tanks now in production for Fort Worth division.

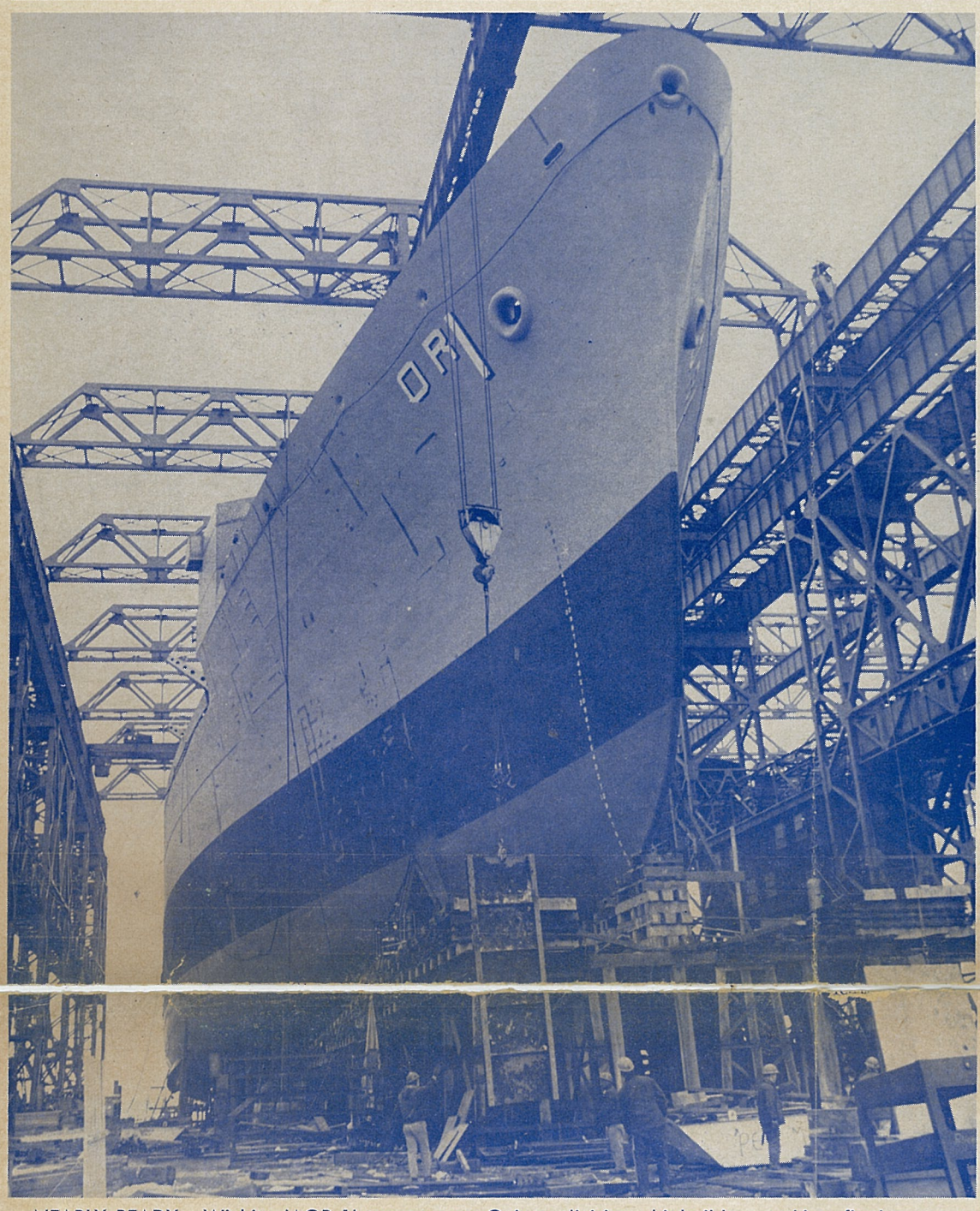


NEW WELDER—Convair's George Coker, welder in Dept. 020, operates one of two new automatic voltage controlled welders now in use on F-111 external fuel tanks.

MAIL EDITION

GENERAL DYNAMICS NEWS

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NEARLY READY—Wichita (AOR-1) towers over Quincy division shipbuilders making final preparations for March 16 launching of the U. S. Navy replenishment fleet oiler.

Wichita Readied For Sat.'s Rites

A blend of newness and tradition will distinguish Saturday's christening of the replenishment fleet oiler Wichita at General Dynamics' Quincy, Mass. division.

The newness will come from the big ship herself — emerged from beneath the staging that has covered her for most of the 21 months since keel laying in June, 1966. The Navy's newest ship spreads 659 feet from the head of her building slip out over the Fore River and rises close to the top of the shipyard's landmark overhead crane structure.

The touch of tradition will come with the champagne bottle breaking and Wichita's slide down inclined ways, the increasingly less used method; but for hundreds of years the only one of first putting a ship into water. The Quincy division's previous christenings saw five vessels floated out of building basins, eliminating the suspenseful moments of waiting for a ship to start its slide toward water after the breaking of the christening bottle.

Nearly a thousand guests, including government and military leaders, will join an estimated 20,000 Quincy division employes and members of their families in watching Mrs. Mary Lou Yeager christen Wichita.

Mrs. Yeager's late father-in-law, VAdm. Howard A. Yeager, was a native of Kansas.

Appropriately for the christening of the namesake of Kansas' largest city, the key address will be given by Congressman Garner E. Shriver of Wichita, thus making the event a nearly "all-Kansas" christening.

Robert V. Laney, General Dynamics vice president and general manager of the Quincy division, will welcome guests and introduce Mrs. Yeager.

Carl G. Holschuh, General Dynamics group vice president-Marine Systems, will speak briefly and introduce Congressman Shriver.

LCdr. Henry P. King Jr. (CH C), USNR, of Dedham will give the invocation.

Also participating in ceremonies will be the First Naval District band and a U. S. Marine Corps color guard from Boston Naval Shipyard.

★ ★ ★

Characteristics

Length	659 feet
Breadth	96 feet
Depth to main deck	56 feet
Draft	33 feet
Full load displacement	37,360 tons
Shaft horsepower	32,000 SHP
Number of shafts	Two
Shaft RPM	105 RPM
Propellers	Two
Propeller weight (each)	39,800 pounds
Propeller diameter	20.5 feet
Rudders	Two
Rudder weight (each)	50,500 pounds
Rudder height	23 feet
Rudder width at top	18.3 feet
Rudder width at base	14 feet
Speed	20 knots
Number of boilers	Three
Turbine generators	Four 2,000 KW
Diesel generator	One at 500 KW
Armament	Two 3"/50 twin mounts
Officers	27
Enlisted and CPO	363

Atlas SLV-3A Turns in Top Performance

Convair division's first larger and uprated Atlas SLV-3A, No. 5602, performed "as expected" in boosting an Agena second stage vehicle and NASA's Orbiting Geophysical Observatory-E into space March 4 from Complex 13 at Cape Kennedy.

The flight marked the 39th consecutive successful Atlas SLV space launch. Lift-off was at 5:06 a.m. Pacific Standard Time, within 1½ seconds after opening of the "launch window."

(Continued on Page 4)

Goodyear Joins With Convair on VSX Task

Goodyear Tire and Rubber Co. has joined the Convair division's VSX team to provide operational trainers for the highly-complex anti-submarine warfare system, Convair program director Earl W. Boteler announced.

Others working with Convair as part of the ASW avionic team are General Electric Co., Sanders Associates, TRW Systems Group.

Proposals from the five major companies competing for a Contract Definition contract must be submitted to the Navy by April 15. Award of the Contract Definition contract is expected by August of this year.

General Calls F-111A 'Unprecedented Success'

The F-111A is an "unprecedented success" which is doing more things well than any other warplane.

These are observations in an article, "Our Most Fantastic Flying Machine," in the March issue of Nation's Business.

The author, Associate Editor Robert W. Irelan, wrote the highly favorable F-111 article after talking with crewmen at Nellis AFB who fly the bird. He also visited Fort Worth division, the Pentagon and Capitol Hill.

"It's probably the most fantastic flying machine American ingenuity has ever conceived," Irelan wrote of the F-111A.

"We have nothing but good news; this plane is an unprecedented success," the article quotes Brig. Gen. Ralph G. Taylor as saying. General Taylor is commander of the Tactical Fighter Weapons Center at Nellis AFB, home of the first F-111A tactical unit.

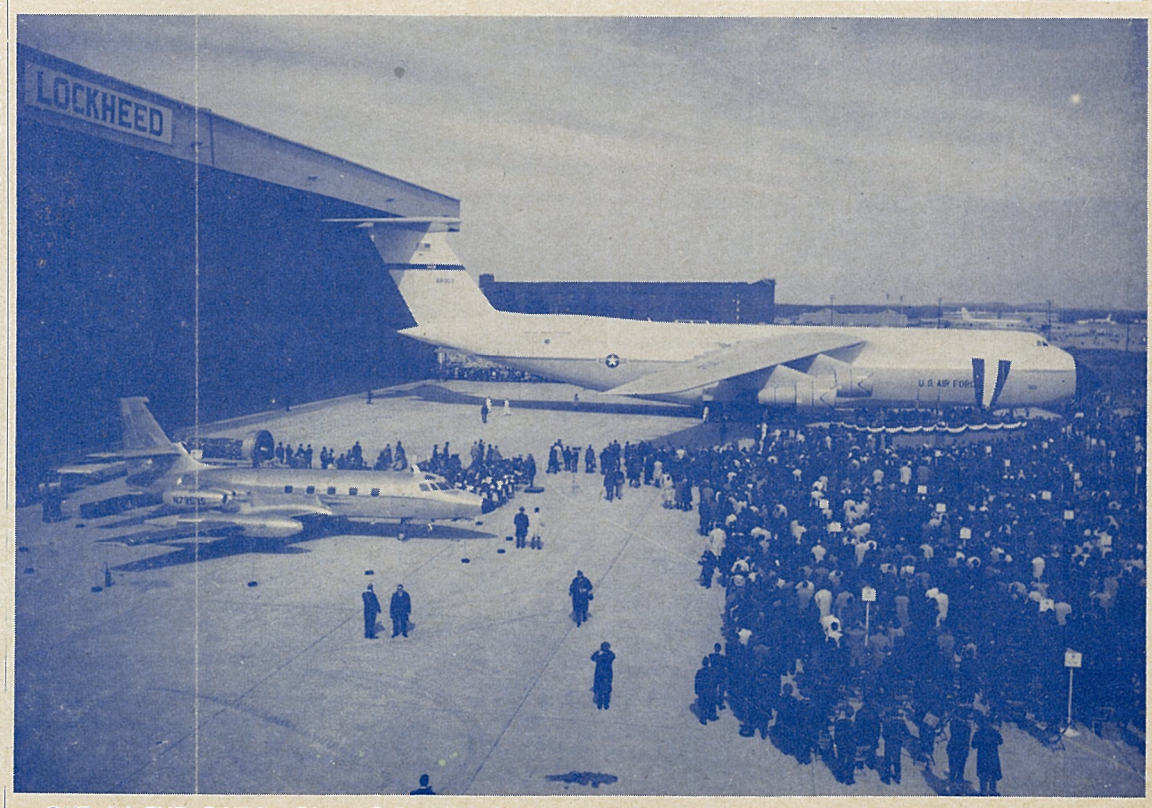
Maj. Kenneth Blank, who flew combat missions in Korea and Viet Nam, was quoted as saying: "We need a bird like this in Viet Nam. . . It gives us an all-weather, day or night aircraft; it can fly when nothing else can get up."

Another Korean combat veteran, Lt. Col. Ed Palmgren, said the F-111A "flies like a Cadillac . . . it's a very fine low-altitude penetrator."

The article lauded the F-111A's ability to perform virtually any type mission because of its variable-sweep wing. Major Blank said, "The F-111A feels the same in all configurations."

In the article, the F-111's avionics systems are called "fan-

(Continued on Page 2)



OUT IN THE OPEN—Giant C-5A dwarfs Lockheed JetStar (foreground) at roll-out at Lockheed-Georgia plant. Convair builds empennage for giant plane, world's biggest.



BOMBS AWAY—F-111A No. 7 unleashes twenty-four 500-pound dummy bombs during practice run at Eglin AFB, Fla.

Convair Nominated For Collier Trophy

Grant L. Hansen, vice president-launch vehicle programs, and Convair division of General Dynamics have been nominated for the 1967 Robert J. Collier Trophy in recognition of development of the Centaur launch vehicle and liquid hydrogen technology.

The Collier Trophy is awarded annually by the National Aeronautic Association for the greatest aerospace achievement in America, the value of which has been thoroughly demonstrated by actual use during the preceding year.

Nomination of Hansen and Convair was made by Edward H. Heinemann, Corporate vice president-engineering and program development, and was based on Hansen's direction and Convair's development of the Centaur, which pioneered hydrogen propulsion technology resulting in the United States being the first nation to successfully employ hydrogen-propelled technology.

Developmental problems overcome and achievements of each of the Centaur research and development and operational flights are detailed in the nomination.

"Taming the high-energy liquid hydrogen for practical use as a rocket fuel is one of the great technical accomplishments of the space program," the nomination brochure states.

"Centaur has helped open up the moon and the solar systems for effective exploration by the U.S. The hydrogen technology pioneered by Centaur has immediate benefits to the Saturn/Apollo program, and the development of space nuclear propulsion.

"The successful two-burn flight of the Saturn V liquid hydrogen fueled upper stages in 1967 further demonstrated by actual use the techniques pioneered and developed in the Centaur program and used in the Saturn S-II and S-IVB stages. This provided confidence for the Apollo man-to-the-moon program. Apollo requires the S-IVB engines to restart after coast in orbit to place three astronauts on the proper path to the moon."

The nomination brochure points out Hansen's responsibility for solving myriad administrative and financial problems and the requirement for development of "a whole new technology" for the program to succeed.

"In Centaur, the nation has the most efficient space vehicle in the world because of its high mass fraction and high specific impulse," it states. "Taming hydrogen for use as a rocket fuel is one of the first line technical-science accomplishments of the entire space program."

Hansen joined Convair in 1960 as chief design engineer, was appointed vice president and program director for Centaur in 1962 and became vice president-launch vehicle programs in 1965.

In 1966, Hansen was awarded NASA's Public Service Award for leadership and exceptional contributions to management of the Convair effort in developing and operating the Centaur vehicle system.

Convair division received the Collier Trophy in 1959 for development of the Atlas, America's first inter-continental ballistic missile.

Smith Appointed To Corp. Post

Robert M. Smith, previously manager of employe relations and employment for Convair division, has been promoted to Corporate salaried compensation administrator at General Dynamics Headquarters in New York. He reports to James L. Budros, director of compensation and personnel development.


Robert Smith

Smith is a Navy veteran and graduate of Franklin and Marshall College with a BA in economics. He formerly was a vice president of Barnes Chase Adv. Co. of San Diego.

GD Team Conducts Study in Viet Nam

Three General Dynamics representatives spent several days in Viet Nam and other Southeast Asian countries last month while on a three-week tour to observe aeromedical evacuation systems and procedures for a study being conducted by Convair division for the Air Force Systems Command.

They were John P. McCann, MD, Corporate director of health and safety; J. R. Burnett, systems engineer for the study from Convair's life sciences Dept. 592-0; and Lt. Col. Aileen Brimmer, a retired Air Force nurse and consultant to Convair for the study.

Dr. McCann said the three-member team, operating individually, flew with hundreds of wounded and seriously ill personnel—some only a few hours removed from the battlefield—and conferred at length with aircrews, nurses and medical technicians involved in casualty evacuation.

"We are doing a systems analysis of the entire aeromedical evacuation service to develop guidelines for future research and development work that in time will enable the system to handle movement of any patient at any time to any place in the world without adverse affect on his condition," he said.

Evacuation and medical care of the injured was observed at almost every air base in Viet Nam and Thailand and at "staging facilities" in Japan and at Clark AFB in the Philippines.

Burnett made one flight to a forward area for casualty evacuation on a C-123 with Maj. Joseph W. Craver Jr., who spent last year at Convair in the Air Force "Education with Industry" program.

Dr. McCann, director of the study and a retired Air Force colonel and former deputy surgeon for the USAF Air Training Command, said morale of the aeromedical evacuation personnel generally is excellent although work for extremely long hours is commonplace.

"It is not infrequent for the injured to be transported to an operating room within 30 minutes and evacuated to hospitals in the States within days," he said.

Burnett returned to the U.S. as a "litter patient" aboard a C-141 with burn victims en route to Fort Sam Houston, Texas. While waiting to board the plane in Yakota, Japan, he suffered a knee injury when a vehicle behind which he was standing was struck by a truck.

350 Unskilled Unemployed To Enter Training Program

Fort Worth division will hire and help train 350 local unskilled persons under a $534,291 demonstration grant from the federal government.

They will be hired as either aircraft assemblers or bonded-structures finishers after completing their training.

Applicants for the program are now being accepted through Texas Employment Commission. The program will start April 22.

Trainees will first be enrolled in a pre-job education program at Technical Institute.

Training will include a one-week evaluation program to determine the applicant's specific educational needs. Five weeks of remedial-training and four weeks of pre-job educational training will follow.

"We plan to give each person specific training in math and other subjects he'll need on the job," said Howard Huggins, chief of educational services.

"In addition, we'll give them instruction in employe relations and other subjects designed to help them adapt readily to an industrial environment."

Following the remedial educational phase, trainees will be selected for further training as either an aircraft assembler or bonded-structures finisher.

Assemblers will take 10 additional weeks of training at Technical, while the finishers will undergo an added four-week course.

After finishing courses at Technical, applicants will be employed by the division at regular rates and undergo four weeks of on-the-job training.

"Our aim," Huggins said, "is to show that industry, working with the government, can use existing facilities to train and employ people who are habitually unemployable.

"We feel industry must take an active and aggressive part in support of the President's stated objectives for the War on Poverty."

General Describes Versatile F-111A 'Unprecedented Success'

(Continued from Page 1)

tastic" by Capt. Joe Keene, who flew F-4s in Viet Nam.

Major Blank said the F-111's terrain-following radar gives the plane special advantages in hilly parts of the Far East. "Up to now in Viet Nam, we haven't been able to let down as much as we wanted because of the sharp peaks and valleys," he said.

"Now we'll be able to do it."

Also praised in the article were the F-111A's flight-control and guidance systems.

The latter system supplies data for automatic radar bombing. "It also allows the F-111A to make instrument landings on any runway, even those not equipped with radio or radar landing aids," the article said.

Summarizing, Major Blank called the F-111A avionics "1,000 per cent better than I'm used to."

The article said General Taylor called the plane an unprecedented success because of two factors: "It's averaging flying 58 to 60 hours an aircraft each month—twice what we get with other aircraft; and we couldn't have had any real problems and be where we are with this plane."

The article describes the F-111A as "the most accessible aircraft for servicing yet built."

"There's no comparing it with any other plane in maintenance accessibility," said Master Sgt. Charles B. Hennessee, flightline chief for the first F-111 detachment. "You don't have to rip half the plane apart to get at something."

Col. Al Esposito, assistant for the F-111 system program, is quoted as praising the plane's ability to fly very low at high speeds. "A MIG-21 . . . would tear its wings off if it tried to chase an F-111 supersonically for long at low levels," he said.

The colonel also spoke highly of the plane's electronic countermeasures that can be used to confuse the enemy. He is quoted as saying:

"The configuration of the plane has . . . been shaped to deflect radar beams rather than bounce them back. Complementing this design is the use of a paint that absorbs rather than reflects radar, so that the enemy gets back a dimmer 'blip' than normal.

"F-111 pilots can dump small amounts of fuel at a time, turn them into balls of fire by igniting them with their afterburners and thus confuse heat-seeking enemy missiles."

CROSWELL RECEIVES MASTER'S IN SCIENCE

L. C. Croswell, Fort Worth division Dept. 64-2, has received his master of science degree (mechanical engineering major) from Southern Methodist University.

General Dynamics News

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Be sure to use the ZIP code when addressing mail. It speeds up delivery!



VSX TOUR—Earl Boteler, Convair program manager for VSX project, admires plaque presented by Cdr. R. A. Costigan during recent inspection tour of Convair's VSX mockup area arranged for Squadron VS-37, based at North Island NAS. Plaque, bearing squadron insigne of hand snatching at submarine, was in appreciation for Convair hospitality.



FORT WORTH MEETING—Members of General Dynamics Board of Directors are pictured during meeting last month at Fort Worth division. Directors make it a practice to hold regular meetings at different divisions. At head of table, center, is Roger Lewis, board chairman and General Dynamics president. Others, from left, Eric A. Walker, William C. Bolenius, H. S. M. Burns, Sylvan C. Coleman, Donald N. McDonnell, Maurice T. Moore, John A. Sargent, I. M. Laddon, B. Emmet Finucane, David Packard, Leo D. Welch, John Floberg. Visit included tour of production facilities.

AF, SAC and RAAF Reps Attend Design Review

Representatives from the Air Force, Strategic Air Command, Royal Australian Air Force met in San Diego late last month for a design review conducted by Fort Worth division on the F-111 weapons bay fuel tank.

Tanks are being fabricated at the Convair division under a work assist contract from Fort Worth. First research and development tanks were completed and delivered the end of February.

No changes in design were indicated after the intensive two-day review. The meeting was held Feb. 26 and 27.

Air Force men attending were Lt. Col. John R. Hall, FB-111 project director from the F-111 Systems Project Office, Wright-Patterson AFB; Lt. Col. J. D. Corbet, USAF-SAC; Maj. G. F. Mocilnikar, AFPRO, Fort Worth; J. A. Ryan, USAF-WPAFB; J. R. Wilson, USAF-WPAFB; 2nd Lt. G. T. Yamamoto and Master Sgt. E. M. Vancil, both of SAC; E. A. Lipovsky, J. N. Powell, D. W. Skelton, W. H. Turner, all of Defense Contract Administration Services.

Squadron Leader W. N. Collins was Royal Australian Air Force representative. He is with the F-111 SPO, based at Fort Worth.

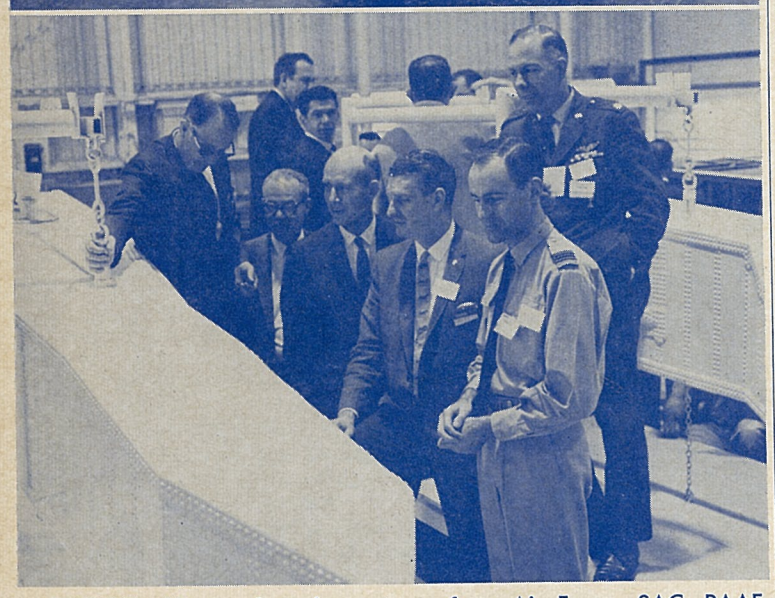
F. E. Armstrong, FB-111 chief project engineer, headed the Fort Worth division contingent.

Pomona Specialist Senior Vp for AIME

John H. Rizley, materials and structures design specialist at Pomona division, has been elevated from junior to senior vice chairman of the Institute of Metals of the American Institute of Mining and Metallurgical Engineers (AIME).

He took office during the annual national meeting of the organization Feb. 26-Mar. 1 in NYC.





REVIEW—Upper shot shows team from Air Force, SAC, RAAF, Fort Worth and Convair divisions during two-day technical design review of F-111 weapons bay tank held at Convair Feb. 26-27. Standing, at far left, is W. S. Stroud, program manager at Convair for F-111 airborne elements. In lower shot, from left, are W. H. Flickinger, assistant to FB-111 program director at Fort Worth; J. R. Bachman, Convair F-111 transfer chief of contracts; F. E. Armstrong, FB-111 chief project engineer, Fort Worth; J. A. Ryan, USAF-Wright-Patterson AFB; Lt. Col. John R. Hall, FB-111 project director, F-111-SPO, Wright-Patterson; and Squadron Leader W. M. Collins, Royal Australian Air Force representative, F-111-SPO, around weapons bay fuel tank.

Ken Perun Honored By Welding Society, To Get Gold Medal

Kenneth R. Perun of Convair division's process development group (Dept. 572-2) has been selected by the American Welding Society for receipt of the James F. Lincoln gold medal for 1967 for a paper on a process he has developed for low-pressure diffusion bonding of titanium alloys.

The paper, "Diffusion welding and brazing of titanium 6A1-4V process development," was published in the September issue of the Welding Journal and was selected as an outstanding contribution to technical literature.

Perun will receive the Lincoln medal and certificate at the American Welding Society's annual meeting next month in Chicago.

The process developed utilizes a thin copper interfacing foil to produce metallurgically homogeneous bonds with strengths comparable to those of the base metals. It is being used by the Boeing Co. for fabrication of titanium skin stiffener panels up to 96 inches long.

Procurement Men Meet in Orlando

Key procurement and materials executives representing General Dynamics Corporate Headquarters and operating divisions conferred yesterday and today (March 12 and 13) at Orlando, Fla., with Dynatronics operation, Electronics division, as host.

Sessions were convened at the direction of Max Golden, Corporate vice president, to provide opportunity for joint discussion of mutual problems. Taking part was Ralph Medros, Corporate director of procurement and traffic.

ORDNANCE ASSN. ELECTS SWANSON

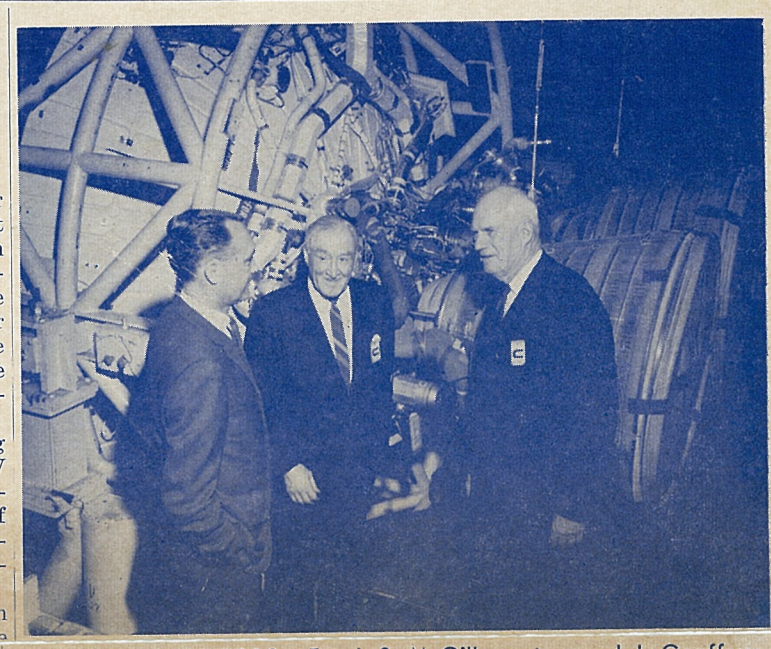
George Swanson of the Defense Contracts Administration Services office at Convair has been elected a board member of the San Diego Chapter of the American Ordnance Association for a two-year term expiring in December, 1969.

Fort Worth Wins First For Safety

Fort Worth division has won first place in the complete aircraft manufacturing division of Texas Safety Association's annual competition.

The award goes each year to the firm compiling the lowest frequency-of-injury rate. Fort Worth has won the award 14 times during the past 18 years.

Fred Temple, chief of safety, will receive the award March 19, in Dallas at the annual Texas Safety Conference.



CANADAIR VISITORS—Frank S. McGill, center, and J. Geoffrey Notman, right, both members of the Canadair Ltd. Board of Directors, look over Centaur vehicle for use in Atlas-Centaur 17 flight with Ray Blair Jr., assistant to Convair general manager, during recent tour of Convair facilities in San Diego. AC-17 will launch NASA's Applications Technology Satellite-D late this year.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

ROBERT M. SMITH (1958) from Convair to Corporate Headquarters as corporate salaried compensation administrator.

JAMES L. BROWNING (1953) from Convair division to tool and operations planning, Fort Worth division; **JOHN E. DICKERSON** (1960) from Convair to chemical processes supervisor, Fort Worth; **EUGENE H. JONES** (1965) from Convair to Electronics, San Diego as senior design assurance engineer; **FRANK A. DERANGO** (1956) from Convair to senior industrial engineer, Stromberg-Carlson, Data Products; **JOHN H. LECKENBY** (1957) from Stromberg-Carlson, Rochester to Quincy; **NICHOLAS W. LENTEN** (1947) from Convair to Fort Worth; **CHARLES H. CAMP** (1965) from Convair to Fort Worth; **LAWRENCE J. NUCCITELLI** from Electronics, Rochester to marketing analyst, Stromberg-Carlson, Data Products; **JOHN M. CORRIGAN** (1962) from Electric Boat to Corporate Headquarters as compensation analyst; **ROBERT C. HECKMAN JR.** (1959) from Electric Boat to senior quality control engineer, Pomona; **THOMAS P. CHRYST** (1966) from Convair to Fort Worth; **VERN R. BRYANT** (1958) from Convair to quality control engineer, Electronics, San Diego; **VERNON A. BENTLEY** (1947) from Convair to Fort Worth; **WILLIAM C. CHANDLER** (1947) from Convair to Fort Worth; **JOSEPH B. MARTINEZ JR.** (1959) from Convair to Pomona as production analyst; **MYRON L. HAWKES** (1950) from Convair to Fort Worth; **ERNEST A. L'ECUYER** (1964) from Electric Boat to cost estimator, Quincy; **FRED E. SUSSMAN** (1967) from Electric Boat to Quincy as accountant; **OLIVER C. SCOTT** (1950) from Convair to 111 field operations, Fort Worth; **GARTH F. SNYDER** (1956) from Convair to Fort Worth; **JAMES A. PRICE** (1957) from Convair to Fort Worth; **FRED F. GURR** (1962) from Convair to reliability specialist, Pomona.

RICHARD A. LYON (1966) from Convair to Electronics, Rochester; **JAMES A. MADDEN** (1956) from Convair to Fort Worth; **MARVIN E. JAMES** (1964) from Convair to Fort Worth; **ERNEST E. LEGER** (1957) from Convair (Cape Kennedy) to Fort Worth; **DAVID M. MASON** (1966) from Electronics, Rochester to Fort Worth; **JOHN A. TOWNSEND** (1953) from Convair to Fort Worth; **GILBERT A. WARILA** (1966) from Convair to senior engineer, Electronics, San Diego; **BORIS W. HRYEKEWICZ** (1963) from Convair to Fort Worth; **LOWELL B. RAPER** (1946) from Convair to Fort Worth; **DAVID J. ROLDNESS** (1966) from Convair to Fort Worth; **RALPH H. SNOW** (1950) from Convair to Fort Worth; **ALEXANDER S. STEBBINS** (1950) from Convair to Fort Worth; **JETT McCORMICK** (1955) from Pomona to Electronics, Dynatronics, Fla. as director of contracts and material.





NO COMMERCIALS—Total of 174 are taking graduate engineering and business courses through TAGER network in Fort Worth division's new television classroom complex. "Homework In" and "Homework Out" bins are located at control room. W. T. Beard, senior aerosystems engineer, seems pleased. Must have picked up an "A." Evening courses are beamed from SMU, TCU, Univ. of Dallas, Southwest Center for Advanced Studies.

If You Don't Understand the Prof, Just Call Him on the Telephone!

A total of 174 employes at Fort Worth division are taking graduate courses in business and engineering through the division's new educational TV facility.

The 174 employes are taking 38 different courses beamed from studios at Southern Methodist University, Texas Christian University, University of Dallas and Southwest Center for Advanced Studies in Dallas. Classes run from 7 a.m. to 10 p.m.

These organizations—and others—comprise the sponsoring organization, the Association of Graduate Education and Research (TAGER).

Fort Worth's TV facility consists of seven rooms which can accommodate up to 62 students. Each classroom houses from six to 18 students. Larger classrooms have two 23-inch TV monitors; smaller rooms have one.

Walls, ceiling, carpeted floors and furnishings are designed to afford maximum acoustical efficiency.

Telephones are located between every two seats in each classroom. Since the program is "live" and not taped, students are able to speak directly to the lecturer via the telephone setup.

In addition to classrooms, the TV facility has a reception area and a control room. D. F. Anderson of educational services is in charge of the operation.

"We have switching equipment in the control center which enables us to transfer any program on any of the channels to any room in the complex," Anderson said.

The control room also has "Homework In" and "Homework Out" bins.

"As soon as a student deposits his home work," Anderson said, "we forward it to the course instructor. When the work is graded and returned, we simply drop it in the 'in' bin and the student picks it up."

In each classroom, special form-fitting chairs are attached to pedestal-mounted, formica-surfaced lecture tables facing TV monitors in front of the room.



APOLLO ASSIST—From left, Walt Barrett and John Murray of Electronics-SD, L. L. Rhodes and R. E. Wilkinson, North American-Rockwell engineers, inspect Apollo command module and attached docking ring with automatic latches fabricated at Electronics-SD for North American-Rockwell Space and Information Division.

Electronics-SD Craftsmanship On Apollo Project Praised

Sections of two Apollo docking simulators fabricated at Electronics division's San Diego operations were delivered late last month to North American-Rockwell Space and Information Division at Downey, Calif.

The simulators will be used by astronauts for training purposes.

Spacecraft hardware of the tunnel section and latch mechanisms will provide access from the Apollo command module to the lunar module for the astronauts during lunar orbit.

Each simulator consists of a command module tunnel, lunar module tunnel, docking ring containing 12 automatic docking latches, and associated hatches.

Machining of exotic metals such as titanium and inconel to the close tolerances required for the latch assembly was accomplished through extraordinary efforts of workers assigned to the task, Walt Barrett, project engineer for Electronics-SD, said. Manual set-ups for machining latch housings were used after a study proved that use of numerical-controlled machines would not be economically feasible due to schedule and the small quantity produced.

North American - Rockwell representatives commended shop personnel for expert craftsmanship exhibited in assembling and functional testing of the complex latch mechanisms.

Parts of the task were particularly demanding, Barrett explained, since this was a first-time job on a first-time model. North American-Rockwell provided program support with on-site representatives.

Crews Training For FB-111 Set

The Air Force has confirmed that crew training for the FB-111 bomber will take place at Carswell Air Force Base, according to an announcement from Rep. Jim Wright of Fort Worth.

To get the training program under way, Air Force told Wright that it plans to release $550,000 in construction funds for facilities at Carswell.

The money will reportedly be used to build a training facility and alterations to an armament and electronics shop at Carswell.

The first FB-111A is slated for delivery to the Air Force either late this year or early next year.

However, training of crews can begin before actual delivery of the plane. They can use mock-ups and other such training aids.

Atlas SLV-3A Shot Tops, 'as Expected'

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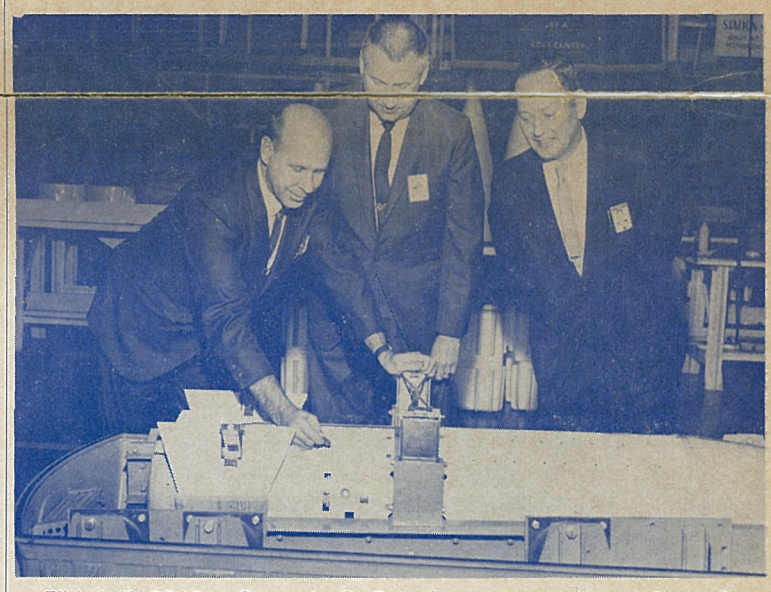
On hand from Convair's Kearny Mesa plant for the launch were Andrew Kalitinsky, director of launch vehicle programs engineering; Richard W. Keehn, Atlas program manager; James L. Minos, Convair program manager for NASA SLV-3 programs.

Thomas Chitty was launch conductor with William Apfel as assistant.

"It was a beautiful sight," Minos said. "The weather was clear and cold and the difference in the SLV-3A's length could really be seen as it began its downrange flight."

The SLV-3A tank is 117 inches longer than that of the SLV-3 and carries an additional 48,000 lbs. of usable propellants for increasing payload capability by about 340 lbs.

OGO-E carried 26 experiments for collection of data on magnetic fields, the ionosphere, distribution and energy levels of energetic particles, radio propagation, very low frequency noise and propagation, interplanetary particles and atmospheric composition.



FINAL TARTAR—Capt. J. C. Donahue, center, Naval Plant Representative, and R. M. Hamada, right, director of manufacturing, watch as Hugh Carlson, NPR quality assurance director, puts inspection stamp on final Tartar missile built at Pomona plant.

Terrier, Tartar Deliveries End; Give Way to Std. Missile

Production has been phased out for Terrier, the U.S. Navy's first guided missile and the fleet's air defense watch-dog for more than 12 years.

Deliveries of both Terrier and the more compact Tartar were completed recently at Pomona division where production of the new Standard Missile is under way.

Terrier first became operational in late 1955 and Tartar followed in 1960. Combined, they supply antiaircraft protection for 74 ships of the U.S. Navy and 14 ships of allied navies.

They will continue to arm these warships, plus a handful of others soon to be commissioned, for several years. Gradual replacement will be made by the Navy, with the extended range version of Standard Missile taking over for Terrier and the medium range Standard Missile replacing Tartar.

The Navy's need for guided missiles to combat enemy aircraft dates back to World War II. The development contract on Terrier started in 1951, and first Terrier deliveries followed in 1953. Tartar development officially got under way in 1955.

Although never fired at an enemy plane, the two supersonic missiles have been deployed in every area of the world. Terrier serves aboard 39 U.S. ships, three carriers but mostly frigates; Tartar arms 35 fleet units, mostly destroyers.

In addition to serving as effective deterrents, the two missiles have also provided a wealth of technical knowledge to the Navy. During the years of development and production, constant improvements and new concepts in missile guidance and electronics have resulted.

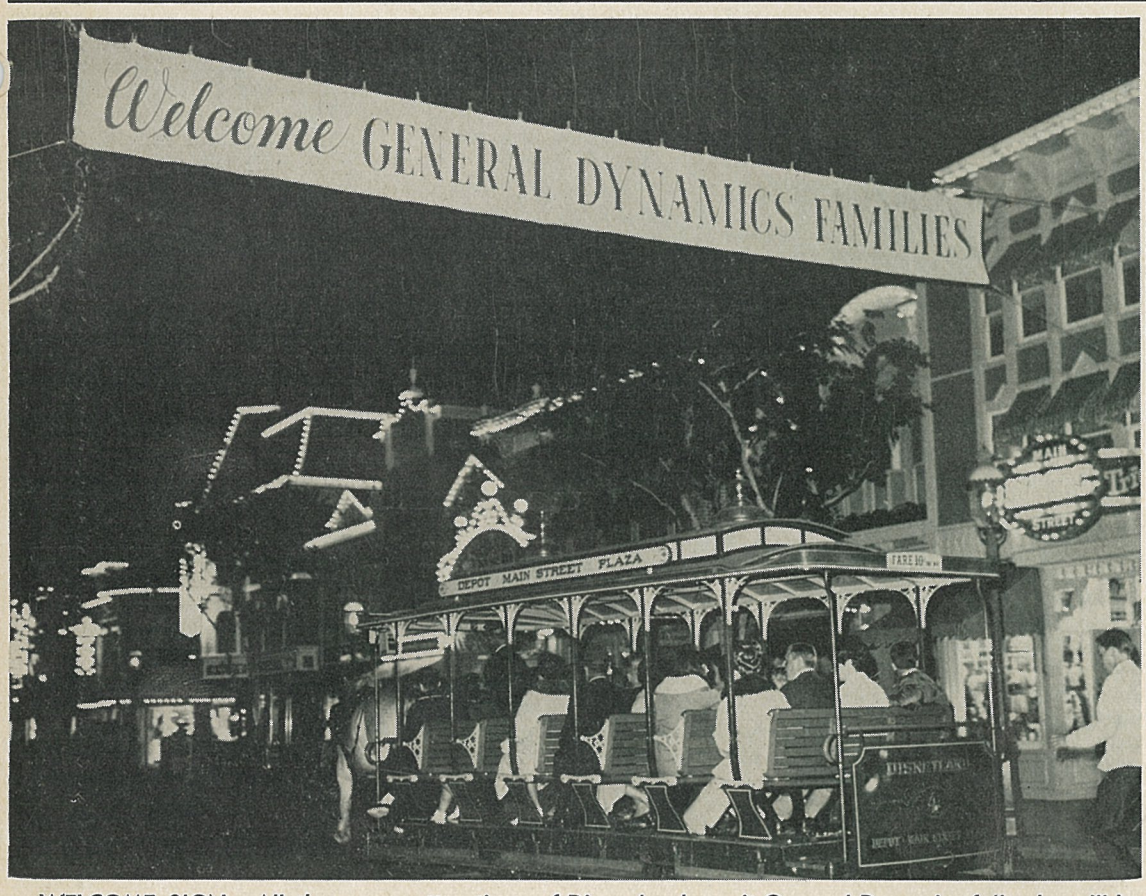
A booster that provides longer range for Terrier is the principal difference between the two fast-reacting and accurate missiles. Interchangeability of guidance sections is a feature of Terrier and Tartar.

Terrier serves on one Dutch and three Italian cruisers; Tartar arms two Italian, four French, one Japanese and three Australian ships.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 6 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, March 13, 1968



WELCOME SIGN—All the many attractions of Disneyland await General Dynamics folk who will be present for GD family party March 20. Tickets ($3.75 each) are on sale and must be purchased in advance. None will be sold at the gate.

Complete Sellout Predicted For GD Party at Disneyland

An all-new, five-acre, $23-million "Tomorrowland" is among attractions awaiting General Dynamics families at the big five-hour family party March 30 at Disneyland.

Tickets for the party, sponsored by Convair Management Club, are on sale at $3.75 each at employe services outlets and numerous in-plant locations.

Visitors to "Tomorrowland" will enjoy such attractions as "Adventure thru Inner Space," "America the Beautiful," "Carousel of Progress" and "Flight to the Moon."

If early ticket sales are an indication, the General Dynamics family party at Disneyland will be a complete sellout. Donald Evanson, planning committee chairman, said tickets are selling twice as fast as last year. "Employes are advised not to wait until the last minute if they want to be assured of getting tickets," he said.

The single admission charge for the 8 p.m. to 1 a.m. family party will cover all rides and attractions (except shooting galleries) and parking. All tickets must be purchased in advance.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

★ ★ ★

Q — Convair notice 7-57 provides that salaried employes with 20 years of *continuous* service are eligible for four weeks vacation. I don't understand why it shouldn't be just for 20 years service. A person who has 20 years total service has put forth just as much effort on behalf of Convair as one who served continuously.

A — A person who has 20 years service, even though it may be broken, is eligible if he meets certain requirements. If his broken service was due to layoff, and if he was rehired within the required period, he is eligible. However, if he terminated voluntarily and then returned to the company he must start in on a new eligibility period. The purpose is to provide an incentive to stay with the company, thus providing a stable work force and avoiding costs of recruiting, training, etc.

★ ★ ★

Q — I understand the NASA-San Diego office at KM will be reduced and if so why not make the reserved parking (rows 2 and 3 by Bldg. 26) available to Convair employes? Also, spaces reserved for physically limited in the area are not being fully used. Couldn't we review the physically limited requirements and make more space available to others?

A — NASA's requirements have been reduced, as you state, and as a result 25 more parking spaces have become available for Convair personnel. Also, physically handicapped requirements have

(Continued on Page 2)

Atlas SLV-3A Turns in Top Performance

Convair division's first larger and uprated Atlas SLV-3A, No. 5602, performed "as expected" in boosting an Agena second stage vehicle and NASA's Orbiting Geophysical Observatory-E into space March 4 from Complex 13 at Cape Kennedy.

The flight marked the 39th consecutive successful Atlas SLV space launch. Lift-off was at 5:06 a.m. Pacific Standard Time, within 1½ seconds after opening of the "launch window."

On hand from Convair's Kearny Mesa plant for the launch were Andrew Kalitinsky, director of launch vehicle programs engineering; Richard W. Keehn, Atlas program manager; James L. Minos, Convair program manager for NASA SLV-3 programs.

Thomas Chitty was launch conductor with William Apfel as assistant.

"It was a beautiful sight," Minos said. "The weather was clear and cold and the difference in the SLV-3A's length could really be seen as it began its downrange flight."

The SLV-3A tank is 117 inches longer than that of the SLV-3 and carries an additional 48,000 lbs. of usable propellants for increasing payload capability by about 340 lbs.

OGO-E carried 26 experiments for collection of data on magnetic fields, the ionosphere, distribution and energy levels of energetic particles, radio propagation, very low frequency noise and propagation, interplanetary particles and atmospheric composition.

The 1,345-lb. spacecraft was fired into an orbit with apogee of about 80,000 nautical miles, a perigee of near 150 nautical miles.

Salvage Schedule

Next employes sales day at the Convair salvage yard, Lindbergh Field plant, will be Saturday, March 30. Open hours are from 8 a.m. until noon. Identification is by ID card.

Individual Reports To Detail Benefits

Convair, Fort Worth and Pomona division salaried employes next month will receive by mail personal "Benefacts Reports" summarizing their current company benefits and projections of such benefits to their retirement date.

The reports, being mailed to each salaried employe's home, are designed to answer the question: "Based on my length of service, my present salary and the number of my dependents, what do my benefits mean to me — in dollars and cents facts?"

Included is information on the "invisible" or "hidden part" of each employe's compensation — which is not reflected on his payroll check but, in the aggregate, costs the divisions several million dollars annually.

The confidential Benefacts Reports are being produced by the Alextronics Corp. of Baltimore, Md., through use of computerized data provided by the divisions and computer projections for Social Security, etc., developed by Alextronics.

M. V. Wisdom, director of industrial relations for Convair, said Alextronics has produced similar reports for employes of more than 900 companies.

The individual reports will be on a single four-fold form. Status of each salaried employe, for purposes of the report, was taken from his final pay period in 1967.

Each of the individually prepared reports will include information on:

1. Hospital and medical benefits — including basic plan hospital room and board, other hospital charge, out-of-hospital, and surgical benefits, and major medical plan coverage and lifetime maximum benefits.

2. Disability benefits — calculated on combination group insurance, retirement, Social Security and sick-leave benefits.

3. Death benefits — from life insurance, savings and stock investment and retirement plans and Social Security. Accidental death benefits and monthly income from Social Security for surviving spouse and dependent children also are given.

4. Normal retirement benefits—from the retirement plan and Social Security.

5. Savings and Stock Investment Plan—itemized by amount contributed by the employe, amount contributed by General Dynamics, current value and projected value on retirement date.

(Because of computer programming technicalities, about 300 salaried employes in the three divisions will not have all their Savings and Stock Investment Plan contributions and earnings reflected in their Benefacts Reports.

(These are salaried employes who have transferred between divisions or formerly were hourly employes contributing to the hourly employes' Savings and Stock Investment Plan through one of the divisions.

(A complete tabulation of their Plan contributions and earnings will be reflected, however, in annual reports prepared by the Plan trustee, Bankers Trust Company of New York City.)

Savings and Stock Investment Plan projections assume that the employe will continue contributions at his present rate without withdrawals. Also included in the projection is the company's continuing contribution to the employe's account at a rate of 50 cents for every dollar the employe saves, as well as allowance for increasing value over the years through stock dividends, etc. A conservative 5 per cent per

(Continued on Page 2)

Smith Appointed To Corp. Post

Robert M. Smith, previously manager of employe relations and employment for Convair division, has been promoted to Corporate salaried compensation administrator at General Dynamics Headquarters in New York. He reports to James L. Budros, director of compensation and personnel development.


Robert Smith

Roger W. Brown, manager of wage and salary administration for Convair since 1966, has been promoted to manager of compensation. Eugene Fox, assistant to the director of industrial relations since November, has been promoted to manager of personnel. Both report to M. V. Wisdom, director of industrial relations.


Roger Brown


Eugene Fox

Brown joined Convair in 1959 as an administrative accountant and later served as an accounting assistant supervisor, chief of cost control at the Eastern Test Range

(Continued on Page 2)

Convair Nominated For Collier Trophy

Grant L. Hansen, vice president-launch vehicle programs, and Convair division of General Dynamics have been nominated for the 1967 Robert J. Collier Trophy in recognition of development of the Centaur launch vehicle and liquid hydrogen technology.

The Collier Trophy is awarded annually by the National Aeronautic Association for the greatest aerospace achievement in America, the value of which has been thoroughly demonstrated by actual use during the preceding year.

Nomination of Hansen and Convair was made by Edward H. Heinemann, Corporate vice president-engineering and program development, and was based on Hansen's direction and Convair's development of the Centaur, which

(Continued on Page 2)

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between March 1 and March 15.

Forty-year: Dept. 002, L. Niemet.

Thirty-year: Dept. 400, J. J. Zamiska.

Twenty-five-year: Dept. 002, D. Cervantes; 019, A. D. Driver; 031, C. H. Holler, T. J. Skerritt; 045, H. P. Alcaraz; 250, J. McMinn; 300, T. R. Blake; 521, B. Graham; 533, J. B. Harter; 565, Mary C. Todd; 578, F. L. Costa, E. A. DiGiulio; 833, Mary R. Hardy.

Twenty-year: Dept. 027, P. W. Byrd; 101, Betty A. Armstrong; 400, R. D. Nowka; 532, D. L. Hobart; 565, C. E. Quinton; 575, K. J. Rogers; 962, R. A. Frey.

Fifteen-year: Dept. 031, W. W. Weger; 101, J. Wilsford; 142, R. L. Costan; 149, L. P. Raley Jr.; 191, Helen G. Cooper; 250, A. Adkinson, A. H. Dauel; 401, J. L. Flora; 452, L. D. Gaines; 572, M. K. Spencer; 584, D. R. Walin; 587, J. L. Lull; 731, R. E. Loper; 732, G. Gillilan; 759, N. B. Byrd; 810, F. L. Pike Jr.; 831, A. L. Borer, J. A. Dunleavy; 832, Loretta F. Wilson; 966, A. J. Huxtable; 967, A. R. Couillard, W. J. Riney, D. L. Smock.

Ten-year: Dept. 047, R. T. Judd; 059, A. E. Divine; 101, G. L. Davis; 113, W. J. Bullock; 130, D. O. Naill, H. C. Neel, G. D. Schryver, J. L. Whitling; 142, R. E. Contell; 149, J. T. Ratajkowski; 195, Diane M. McPike; 250, W. I. Hodge, R. R. Matthews; 401, O. M. Bejarano; 402, Irene L. Sager; 519, S. Fukuno, W. L. Gray; 524, Betty D. Downing, Lula M. East, Irene E. Paulis; 565, C. R. Parker; 566, R. G. Perin; 572, J. Hertz, P. S. Rader; 587, E. E. Spier Jr.; 592, E. L. Casco; 733, M. R. Guerra; 780, Ruth S. Dixon, R. D. Leavitt; 820, P. Masciana; 951, E. M. Sommer; 962, A. L. Vinzant; 964, R. J. Buehler; 979, J. E. Coolidge, F. R. Doran, W. L. Holley, N. M. Robinson; 985, J. F. Stolle; 988, T. Shamshoian.

ELECTRONICS

Twenty-year: Dept. 424, J. R. Skimin; 713, C. G. Franklin.

STROMBERG-CARLSON

Fifteen-year: Dept. 8720, J. B. Bellingham.

Retirements

CONVAIR

BAYER—Matthew C., Dept. 561-0. Seniority date July 19, 1955, retired Dec. 24, 1967.

CHRISTIE—Cornelius W., Dept. 565-1. Seniority date Oct. 23, 1958, retired Feb. 29, 1968.

CORRELL—Charles E., Dept. 515-0. Seniority date April 5, 1943, retired Feb. 29.

CROCKER—Clinch N., Dept. 191-0. Seniority date July 21, 1927, retired Feb. 29.

DUCKWORTH—Claude P., Dept. 015-0. Seniority date May 4, 1955, retired Feb. 29.

GARRISON—Frank I., Dept. 015-0. Seniority date Oct. 3, 1940, retired Feb. 29.

HARRIS—Theodore R., Dept. 015-0. Seniority date July 27, 1950, retired Feb. 29.

HENRY—Lloyd N., Dept. 250-3. Seniority date July 3, 1941, retired Feb. 29.

HOUCHIN—Wilbert H., Dept. 756-0. Seniority date May 22, 1958, retired Feb. 29.

JOHNSON—Osborn H., Dept. 300-3. Seniority date Feb. 15, 1956, retired Feb. 29.

LEWIS—Edwin A., Dept. 515-0. Seniority date Sept. 4, 1958, retired Feb. 29.

LUEDTKE—Fred R., Dept. 300. Seniority date March 2, 1953, retired Feb. 29.

McCLARREN—Don L., Dept. 565-1. Seniority date Aug. 11, 1960, retired Feb. 29.

McEVER—Joseph B., Dept. 979-2. Seniority date May 25, 1959, retired Dec. 29, 1967.

McCOY—James H., Dept. 031-0. Seniority date Sept. 5, 1940, retired Feb. 9.

RUTTER—Royal L., Dept. 834-2. Seniority date Sept. 15, 1960, retired Feb. 29.

SHAW—Otis R., Dept. 978-3. Seniority date April 30, 1956, retired Feb. 29.

SHELTON—Charles N., Dept. 961-7. Seniority date Jan. 4, 1956, retired Jan. 29.

SOLIS—Alexander, Dept. 985. Seniority date Dec. 14, 1960, retired Oct. 15.

SOSNOWSKI—Stanley M., Dept. 101-4. Seniority date Jan. 22, 1941, retired Jan. 31.

SYKES—David W., Dept 130-1. Seniority date July 26, 1951, retired Feb. 29.

VALERIO—Anthony L., Dept. 979-1. Seniority date Jan. 19, 1959, retired Feb. 1.

WARD—Kenneth E., Dept. 583-0. Seniority date May 27, 1940, retired Feb. 29.

Personals

CONVAIR

Former Convair employe Paul R. McGuffie, now an Army private first class in Viet Nam, is interested in receiving mail from friends. His address is Pfc Paul McGuffie, US56703356, 101st Airborne Div., 1/321 Arty., B Btry., APO, San Francisco, Calif. 96383.

* * *

We wish to express our sincere appreciation to all of our Convair friends for the many kind expressions of sympathy at the death of our son, Donald Lee Henry.

Leroy and Billie (Dept. 532-0) Henry and Lidia Henry

* * *

ELECTRONICS—SD

I wish to express my sincere gratitude to the employes of General Dynamics for their kind expressions of sympathy upon the death of my husband, Phil Neeb, Dept. 465.

Charlene Neeb and son.

Awards

CONVAIR

Employe Suggestion awards approved for the week ending Feb. 23.

Dept. 001-0, R. W. Smith Jr.; 015-0, L. M. Persing; 022-0, O. W. Brotherton; 027-0, R. J. Dunn, J. R. Myers, W. R. Piercy (three awards), W. L. Worthington (three awards); 031-0, E. Weems; 045-0, R. E. Pendarvis (two awards); 131-5, J. Medina; 142-1, L. E. Johnson; 143-6, R. R. Reekers; 144-1, W. G. Lux; 144-2, E. McLeod; 149-8, M. D. Schell; 250-1, D. E. Belchamber, M. E. Nicolet, W. C. White; 250-5, F. Tellez; 518-0, W. F. Strasburg; 519-0, C. Greve Jr., V. Haydel; 524-5, M. M. Dumler, A. N. Markham; 531-2, R. D. Shenk; 566-1, A. E. Anderson; 599-1, C. E. McCoy; 761-0, K. F. Cash, H. L. Shaulis, L. S. Spurgeon; 763-0, L. E. Turner; 840-2, V. J. Barber; 953-0, W. G. Shickel; 979-1, G. M. Crosselle, C. E. Ray; 985-1, R. L. Westfall.

Employe Suggestion awards approved for the week ending March 1.

Dept. 015-0, S. Brown, A. J. Capuccini, R. D. McDowell, L. W. Tracy; 016-0, M. C. Archibeque; 019-0, G. F. Reutlinger; 027-0, E. L. Holtwick (two awards), C. A. Krug, C. L. McNeal (two awards), R. B. Walling; 031-0, T. Castro, E. Weems; 045-0, R. E. Pendarvis; 140-2, S. Petcher; 141-2, D. M. Scannell; 144-2, G. T. Lizon; 146-5, J. B. Nelson; 149-2, V. Moe; 170-1, C. C. Hays; 193-3, G. W. Megeath; 401-1, H. S. Hagen; 401-5, D. Culver, R. A. Taylor (two awards); 401-6, W. A. McGrew; 520-1, H. P. Kelly; 524-5, M. Rankin; 574-2, D. A. Abernathie; 761-0; R. A. Deutschman, P. Gasca; 840-0, E. M. Wiltgen; 962-2, A. Vinzant.

Invention Disclosures

CONVAIR

CROSS—R. I. and W. EGLI, Dept. 584-0. Non-stop Rapid Transit.

HUBER—H. S., D. L. OLSON, F. J. WEYHER, Dept. 979-1. Improved Use of Thermodynamic Change of State to a Closed Circuit Prime Mover for Automotive or Power Generation Applications.

KOENCY—J. E., Dept. 596-0. Oxygen Analyzer.

SIMONS—B. J., Dept. 581-4, and A. J. K. CARLINE, Dept. 580-0. Thrust Reverser-Fan & Primary Exhaust-up Only.

SMITH—M. R., Dept. 581-6. Release-Cargo, Automatic.

Papers Presented

CONVAIR

KAHLER—D. N., Dept. 550-0. "A Ground Environment to Support Aerospace Vehicle Testing in the Mid 1970s." AIAA/Aircraft Design for 1980 Operations Meeting, Washington, D.C., Feb. 12-14.

ROTHE—E. W., and R. K. B. HELBING, Dept. 596-0. "Atom-Molecule Scattering: Energy Dependence of Total Cross Section." American Physical Society Meeting, Boston, Mass., Feb. 26-28.

SHAFER—W. A., Dept. 592-0. "Non-Contact Cardiovascular Monitoring System." Southern California Regional Meeting of the American College of Physicians, Palm Springs, Feb. 23-25.

Papers presented at the American Society for Quality Control/15th Annual Western Region Conference, Phoenix, Ariz., Feb. 1-3:

BECKER—R. W., Dept. 141-2. "Maintaining System Cleanliness During Assembly of the Centaur Vehicle."

BOWERS—J. M., Dept. 140-1. "The A-B-Cs of Quality Motivation."

HOLLAR—W. T., Dept. 141-2. "Are You Meeting Space Age Training Needs."

MISHLER—H. H., Dept. 141-1. "Discrepancy Reporting and Corrective Action."

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Monday, March 18, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 14 auditorium, Tuesday, March 26, 8 a.m. for first shift; Wednesday, March 27, 4:30 p.m. for second shift.

AF Plant 19: ext. 491 LF, Bldg. 3, 1st mezz, Col. B-14 conference room, Thursday, March 28, 8 a.m.

CAL WESTERN

Registration for Cal Western graduate and evening courses Saturday, March 23, 8:30-11:30 a.m., school gymnasium; day classes Monday, March 25, 8:30-a.m.-4:30 p.m. Brochures and information at educational services. Call David Chigos, ext. 1931 KM.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF-STUDY—A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Deaths

CONVAIR

DOWNEY—Francis E., Dept. 191-0. Died March 2. Survived by wife, Elsie.

SEYBOLD—Charles L., Dept. 400-1. Died March 5. Survived by his wife, Florence Z.; children, Richard Green, Michael Seybold, Marian Shirley.

WILLSON—James D., Dept. 810-0. Died Feb. 10. Survivers include his wife, Helene.

CAPE KENNEDY

PEARSALL—Glenn C., Dept. 571-8. Died Feb. 21. Survivors include his wife, Helen.

Individual Reports To Detail Benefits

(Continued from Page 1)

year was used to estimate a rate of increasing value. (From the employe's standpoint, the projection illustrates his contribution as increasing each year by 55 per cent—50 per cent of which is due to company contributions.)

Retirement benefits shown in the reports are for the normal form — a lifetime annuity.

Estimated Social Security benefits were calculated on the current (final 1967 pay period) rate. It also was assumed each salaried employe was fully insured and insured for disability benefits.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N. Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Convair Nominated For Collier Trophy

(Continued from Page 1)

pioneered hydrogen propulsion technology resulting in the United States being the first nation to successfully employ hydrogen-propelled technology.

Developmental problems overcome and achievements of each of the Centaur research and development and operational flights are detailed in the nomination.

"Taming the high-energy liquid hydrogen for practical use as a rocket fuel is one of the great technical accomplishments of the space program," the nomination brochure states.

"Centaur has helped open up the moon and the solar systems for effective exploration by the U.S. The hydrogen technology pioneered by Centaur has immediate benefits to the Saturn/Apollo program, and the development of space nuclear propulsion.

"The successful two-burn flight of the Saturn V liquid hydrogen fueled upper stages in 1967 further demonstrated by actual use the techniques pioneered and developed in the Centaur program and used in the Saturn S-II and S-IVB stages. This provided confidence for the Apollo man-to-the-moon program. Apollo requires the S-IVB engines to restart after coast in orbit to place three astronauts on the proper path to the moon."

The nomination brochure points out Hansen's responsibility for solving myriad administrative and financial problems and the requirement for development of "a whole new technology" for the program to succeed.

"In Centaur, the nation has the most efficient space vehicle in the world because of its high mass fraction and high specific impulse," it states. "Taming hydrogen for use as a rocket fuel is one of the first line technical-science accomplishments of the entire space program."

Included with the nomination were copies of letters of commendation from Vice President Hubert H. Humphrey; Homer E. Newell and John E. Naugle, NASA associate administrators; Dr. Abe Silverstein, director of NASA's Lewis Research Center; Edmund R. Jonash, Centaur project manager for NASA, and Lt. Gen. J. W. O'Neill, Air Force Space and Missile Systems Organization commander.

Hansen joined Convair in 1960 as chief design engineer, was appointed vice president and program director for Centaur in 1962 and became vice president-launch vehicle programs in 1965.

He previously held engineering and management positions with Douglas Aircraft Co. He was test conductor for the Nike program at White Sands Proving Grounds, launching 74 of the earliest Nike research and development vehicles, and had responsibility for electrical and electronic engineering for the Nike Ajax, Nike Hercules, Honest John, Sparrow, MB-1, Thor, Thor-Delta, Nike Zeus and Skybolt missile and space systems.

In 1966, Hansen was awarded NASA's Public Service Award for leadership and exceptional contributions to management of the Convair effort in developing and operating the Centaur vehicle system.

Convair division received the Collier Trophy in 1959 for development of the Atlas, America's first inter-continental ballistic missile.

Smith Appointed To Corp. Post

(Continued from Page 1)

for the former Astronautics division, and chief of budgets for space launch projects.

He studied accounting at St. Mary's College and received his degree in the same field from the University of California in 1950.

Fox first was employed at Convair as a purchasing dispatcher in 1941 while attending San Diego State College. After a tour of Army duty, he received his accounting degree from USC in 1948 and was a sales tax auditor for the California Board of Equalization for eight years.

He rejoined the division in 1956 as a budget analyst and served as a senior project analyst, estimating supervisor, budget supervisor and manager of budgets.

Reporting to Brown are J. K. Field, chief of employe services; C. T. McKaig, wage and salary administrator; and R. C. McKee, administrator of Management Upgrade.

Reporting to Fox are J. A. Croft, chief of educational services; J. P. Hopman, chief safety engineer; J. J. Tannone Jr., supervisor of professional placement; and Ray Mendoza, supervisor of employment.

Catalog Lists Documentaries

Convair division's motion pictures and television Dept. 516-0 has published a new catalog listing 135 16-mm films that are available through the department's film library for viewing or loan.

The catalog lists 50 documentary films, 11 one-to-three-minute short films, 25 Air Force and NASA program films and 49 silent Air Force Space and Missile Systems Organization film reports with narrator scripts covering Convair activity for the Air Force.

Program managers and departmental supervisors may obtain copies of the catalog by calling ext. 1525 KM. Interested employes may borrow appropriate films from the film library for showing either in plant or at civic, fraternal and youth group meetings.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Continued from Page 1)

been reviewed, as you suggested, and we have gained 20 more spaces as a result. Thank you for calling attention to this condition.

★ ★ ★

Q — As far as I can determine, there is really no requirement, either legal or by good management practices, for having time clocks. Psychologically, they lower morale. Are they really necessary at Convair?

A — While the points you make are well considered, Convair management believes that time clocks are the simplest, most economical and effective way of maintaining time records, which are required by law and are particularly critical with regard to female employes (whose maximum hours are legally limited).

★ ★ ★

Q — At one time Convair had a system whereby functions, such as engineering, could go out and obtain business to keep the group busy and intact. Is this system still active?

A — Convair does encourage pursuit of research and development contracts. The only constraints imposed are that the work sought support our program objectives and requires no expensive new facilities.

★ ★ ★

Q — Why has Convair let the parking situation at LF become so troublesome? I understand we offered some lot operators a lease but they turned it down. Was our offer too low?

A — Parking at LF is indeed a problem, as the new freeway has reduced available space. However, it is not considered critical at this time. Meanwhile, Convair will continue to buy or lease property for parking when it is available at reasonable cost, and encourage rider-driver pools.

★ ★ ★

Q — Why don't we put our sales force on salary plus commission?

A — Interesting thought, but unfortunately such a system would be highly impractical. In order to determine who should receive a commission, Convair would have to determine who actually made the sale. The complexity of our customer organizations and the large numbers of individuals involved in each sales effort of any size, from initial contacts to proposal preparation, would make it virtually impossible to determine the degree of responsibility of any one individual.

★ ★ ★

Q — Why doesn't Con-Trib-Club make a donation to the new USO building fund? As a fair-share contributor I'd like to see it done.

A — Con-Trib-Club Committee is in touch with building fund sponsors and action will be considered when the fund's ultimate requirements are determined.

★ ★ ★

Q — The picnic tables we use for lunch breaks are in need of repainting. Can maintenance handle this before the good weather returns?

A — Starting in 1968, refinishing outdoor lunch tables is included in the planned painting schedule as an annual task. Work has been completed on some equipment at LF already, and the effort will be divided so that each location will share alike. It is anticipated that all tables will be completed this spring and hereafter work will be scheduled during the winter.

★ ★ ★

Q — Sometimes it is necessary to use two or three hours during a day for doctor or dental appointments. Why can't hourly employes charge this to sick leave rather than lose pay?

A — Convair pays hourly sick leave allowances on full day absences only, primarily because administering sick leave accounts is quite costly and expense would be far greater if payment was made on fractions of days.



FORT WORTH MEETING—Members of General Dynamics Board of Directors are pictured during meeting last month at Fort Worth division. Directors make it a practice to hold regular meetings at different divisions. At head of table, center, is Roger Lewis, board chairman and General Dynamics president. Others, from left, Eric A. Walker, William C. Bolenius, H. S. M. Burns, Sylvan C. Coleman, Donald N. McDonnell, Maurice T. Moore, John A. Sargent, I. M. Laddon, B. Emmet Finucane, David Packard, Leo D. Welch, John Floberg. Visit included tour of production facilities.

AF, SAC and RAAF Reps Attend Design Review

Representatives from the Air Force, Strategic Air Command, Royal Australian Air Force met in San Diego late last month for a design review conducted by Fort Worth division on the F-111 weapons bay fuel tank.

Tanks are being fabricated at the Convair division under a work assist contract from Fort Worth. First research and development tanks were completed and delivered the end of February.

No changes in design were indicated after the intensive two-day review. The meeting was held Feb. 26 and 27.

Air Force men attending were Lt. Col. John R. Hall, FB-111 project director from the F-111 Systems Project Office, Wright-Patterson AFB; Lt. Col. J. D. Corbet, USAF-SAC; Maj. G. F. Mocilnikar, AFPRO, Fort Worth; J. A. Ryan, USAF-WPAFB; J. R. Wilson, USAF-WPAFB; 2nd Lt. G. T. Yamamoto and Master Sgt. E. M. Vancil, both of SAC; E. A. Lipovsky, J. N. Powell, D. W. Skelton, W. H. Turner, all of Defense Contract Administration Services.

Squadron Leader W. N. Collins was Royal Australian Air Force representative. He is with the F-111 SPO, based at Fort Worth.

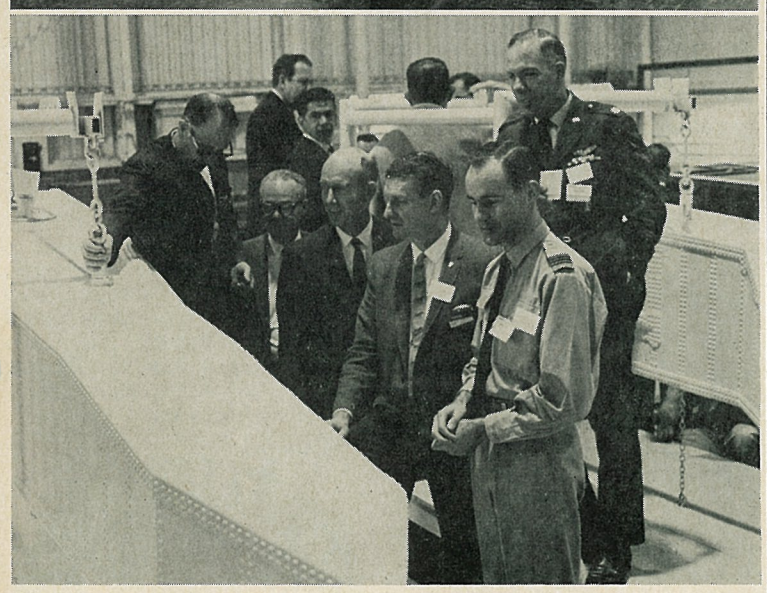
F. E. Armstrong, FB-111 chief project engineer, headed the Fort Worth division contingent.

Pomona Specialist Senior Vp for AIME

John H. Rizley, materials and structures design specialist at Pomona division, has been elevated from junior to senior vice chairman of the Institute of Metals of the American Institute of Mining and Metallurgical Engineers (AIME).

He took office during the annual national meeting of the organization Feb. 26-Mar. 1 in NYC.





REVIEW—Upper shot shows team from Air Force, SAC, RAAF, Fort Worth and Convair divisions during two-day technical design review of F-111 weapons bay tank held at Convair Feb. 26-27. Standing, at far left, is W. S. Stroud, program manager at Convair for F-111 airborne elements. In lower shot, from left, are W. H. Flickinger, assistant to FB-111 program director at Fort Worth; J. R. Bachman, Convair F-111 transfer chief of contracts; F. E. Armstrong, FB-111 chief project engineer, Fort Worth; J. A. Ryan, USAF-Wright-Patterson AFB; Lt. Col. John R. Hall, FB-111 project director, F-111-SPO, Wright-Patterson; and Squadron Leader W. M. Collins, Royal Australian Air Force representative, F-111-SPO, around weapons bay fuel tank.

Ken Perun Honored By Welding Society, To Get Gold Medal

Kenneth R. Perun of Convair division's process development group (Dept. 572-2) has been selected by the American Welding Society for receipt of the James F. Lincoln gold medal for 1967 for a paper on a process he has developed for low-pressure diffusion bonding of titanium alloys.

The paper, "Diffusion welding and brazing of titanium 6A1-4V process development," was published in the September issue of the Welding Journal and was selected as an outstanding contribution to technical literature.

Perun will receive the Lincoln medal and certificate at the American Welding Society's annual meeting next month in Chicago.

The process developed utilizes a thin copper interfacing foil to produce metallurgically homogeneous bonds with strengths comparable to those of the base metals. It is being used by the Boeing Co. for fabrication of titanium skin stiffener panels up to 96 inches long.

Procurement Men Meet in Orlando

Key procurement and materials executives representing General Dynamics Corporate Headquarters and operating divisions conferred yesterday and today (March 12 and 13) at Orlando, Fla., with Dynatronics operation, Electronics division, as host.

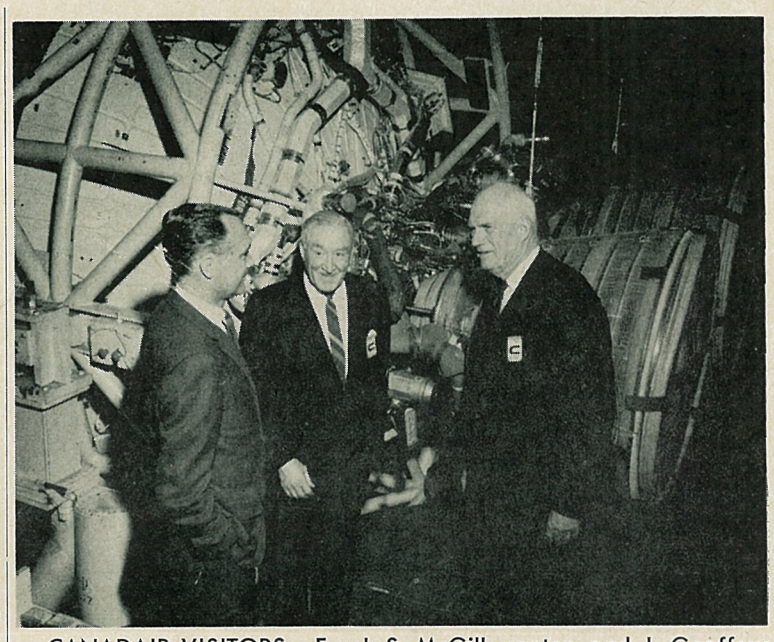
Sessions were convened at the direction of Max Golden, Corporate vice president, to provide opportunity for joint discussion of mutual problems. Taking part was Ralph Medros, Corporate director of procurement and traffic.

Fort Worth Wins First For Safety

Fort Worth division has won first place in the complete aircraft manufacturing division of Texas Safety Association's annual competition.

The award goes each year to the firm compiling the lowest frequency-of-injury rate. Fort Worth has won the award 14 times during the past 18 years.

Fred Temple, chief of safety, will receive the award March 19, in Dallas at the annual Texas Safety Conference.



CANADAIR VISITORS—Frank S. McGill, center, and J. Geoffrey Notman, right, both members of the Canadair Ltd. Board of Directors, look over Centaur vehicle for use in Atlas-Centaur 17 flight with Ray Blair Jr., assistant to Convair general manager, during recent tour of Convair facilities in San Diego. AC-17 will launch NASA's Applications Technology Satellite-D late this year.

People Mobility

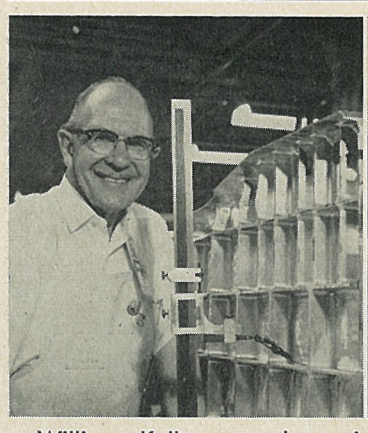
Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

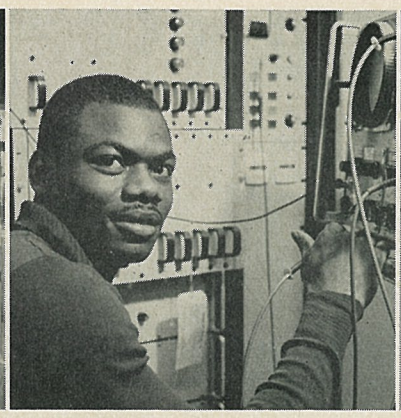
ROBERT M. SMITH (1958) from Convair to Corporate Headquarters as corporate salaried compensation administrator.

JAMES L. BROWNING (1953) from Convair division to tool and operations planning, Fort Worth division; **JOHN E. DICKERSON** (1960) from Convair to chemical processes supervisor, Fort Worth; **EUGENE H. JONES** (1965) from Convair to Electronics, San Diego as senior design assurance engineer; **FRANK A. DERANGO** (1956) from Convair to senior industrial engineer, Stromberg-Carlson, Data Products; **JOHN H. LECKENBY** (1957) from Stromberg-Carlson, Rochester to Quincy; **NICHOLAS W. LENTEN** (1947) from Convair to Fort Worth; **CHARLES H. CAMP** (1965) from Convair to Fort Worth; **LAWRENCE J. NUCCITELLI** from Electronics, Rochester to marketing analyst, Stromberg-Carlson, Data Products; **JOHN M. CORRIGAN** (1962) from Electric Boat to Corporate Headquarters as compensation analyst; **ROBERT C. HECKMAN JR.** (1959) from Electric Boat to senior quality control engineer, Pomona; **THOMAS P. CHRYST** (1966) from Convair to Fort Worth; **VERN R. BRYANT** (1958) from Convair to quality control engineer, Electronics, San Diego; **VERNON A. BENTLEY** (1947) from Convair to Fort Worth; **WILLIAM C. CHANDLER** (1947) from Convair to Fort Worth; **JOSEPH B. MARTINEZ JR.** (1959) from Convair to Pomona as production analyst; **MYRON L. HAWKES** (1950) from Convair to Fort Worth; **ERNEST A. L'ECUYER** (1964) from Electric Boat to cost estimator, Quincy; **FRED E. SUSSMAN** (1967) from Electric Boat to Quincy as accountant; **OLIVER C. SCOTT** (1950) from Convair to 111 field operations, Fort Worth; **GARTH F. SNYDER** (1956) from Convair to Fort Worth; **JAMES A. PRICE** (1957) from Convair to Fort Worth; **FRED F. GURR** (1962) from Convair to reliability specialist, Pomona.

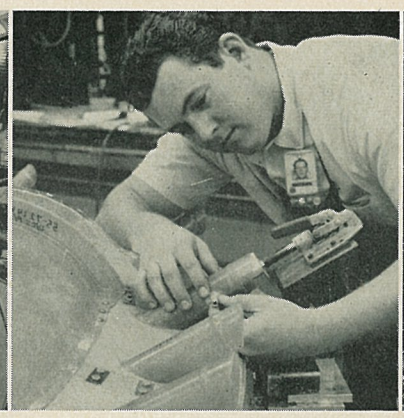
RICHARD A. LYON (1966) from Convair to Electronics, Rochester; **JAMES A. MADDEN** (1956) from Convair to Fort Worth; **MARVIN E. JAMES** (1964) from Convair to Fort Worth; **ERNEST E. LEGER** (1957) from Convair (Cape Kennedy) to Fort Worth; **DAVID M. MASON** (1966) from Electronics, Rochester to Fort Worth; **JOHN A. TOWNSEND** (1953) from Convair to Fort Worth; **GILBERT A. WARILA** (1966) from Convair to senior engineer, Electronics, San Diego; **BORIS W. HRYEKEWICZ** (1963) from Convair to Fort Worth; **LOWELL B. RAPER** (1946) from Convair to Fort Worth; **DAVID J. ROLDNESS** (1966) from Convair to Fort Worth; **RALPH H. SNOW** (1950) from Convair to Fort Worth; **ALEXANDER S. STEBBINS** (1950) from Convair to Fort Worth; **JETT McCORMICK** (1955) from Pomona to Electronics, Dynatronics, Fla. as director of contracts and material.



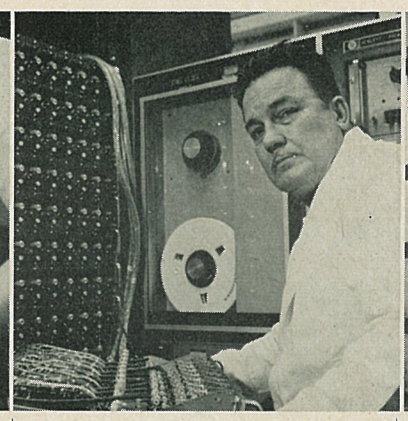
William Keller was born in Minnesota of a Finnish family, whose native name was Niskunen. His father simplified it to Keller in 1913 after coming to the United States. Keller is an expert machinist, learning the trade first from his father and then in a Superior, Wis., vocational school. He has a total of 15 years' service with Convair, though broken by lay-offs. He joined experimental in 1947 and machined the first gyroscope gears for a forerunner of the Terrier missile. He is now at Plant 19 on F-111 work. He has a host of hobbies and enthusiasms.



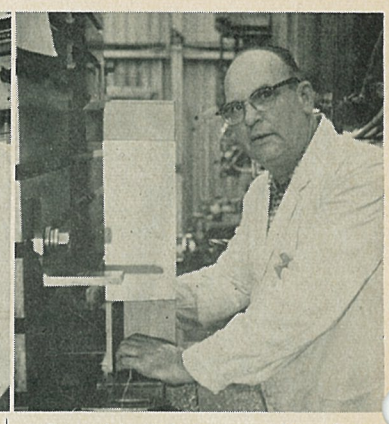
Bob Williams joined Stromberg-Carlson Data Products last July as an electronics technician. He came to S-C from Honeywell's Test Instruments Division in San Diego. He received most of his electronics training as a radarman in the Navy. He was attached to the USS Hanson, radar picket destroyer, and to the USS Iwo Jima, helicopter troop carrier, during his four years duty. He completed a course in electronics following his discharge and is continuing work toward an electronic engineering degree. He likes sports of all kinds, bowls and golfs when he has time.



Robert D. Beneventi, a plastic leadman in Dept. 454-0 at Kearny Mesa, is shown installing a tube on one of 20 nozzles on thermal bulkhead installation for Centaur vehicle for use in Atlas-Centaur 19 Mariner Mars flight in 1969. Beneventi, Dept. 454-0 employe since 1960, is a native San Diegan and graduate of Point Loma High, where he lettered three years in baseball. He lives in Ocean Beach with his wife, Sue, and three children. During his spare time, he enjoys bowling and fishing from the Ocean Beach pier or Sunset Cliffs.



Bob Holland is assembling signal conditioners for the data acquisition system for F-111 static tests at Convair's structural test lab, Harbor Drive. There are 400 signal conditioners in the system. Now a research test lab technician, Holland joined Convair in 1957 in the strain gauge lab and helped in the build-up of the data acquisition system for the 880 jet transport. He and his wife, Ethel, make their home in Allied Gardens. Their only daughter is married and lives in Berkeley with her husband and small son. The Hollands enjoy camping and fishing.



Donald Bettinger, jig bore machinist in Electronics-SD fabrication, is setting up to mill a cradle for an F-111 instrumentation fixture. He joined Convair 16 years ago as a machinist in experimental after coming to San Diego from Dayton, Ohio. He transferred to Electronics in 1962. He and his wife, Ruth, live in Clairemont where Bettinger spends all the time he can working in his yard. The family dachshund, Teena, requires a lot of their attention. Their son and daughter are both married with homes of their own, one in Ohio and the other in Connecticut.

Reduction in Telephone Costs Sought in Conservation Drive

Reducing indirect-budget telephone costs by $150,000 is one of the goals of Convair division's 1968 Conservation Program.

Achievement of the goal will still leave the division with costs for telephone service for the year totaling more than $1 million, according to E. D. Heller, Convair's manager of cost reduction and value control, who is administering the Conservation Program.

Included are costs for telephone instruments and their installation and relocation, special lines and special equipment such as buzzer systems and speaker phones—as well as for long-distance-call charges.

Convair and Pacific Telephone Co. representatives have conducted a division-wide telephone equipment survey that included an analysis of telephone equipment requirements by departments and functions.

For maximum economy, plant engineering and finance departments are reviewing telephone rearrangement costs as organizational relocations are planned, removing no-longer-required phone equipment at the earliest possible date, and attaching phones to walls rather than desks when possible.

Heller said a campaign to reduce long-distance charges is being planned. Substitution of mail for regularly repetitive long-distance calls will be encouraged and employes making long-distance calls will be urged to limit length of the calls to a minimum.

The Conservation Program's goal of reducing phone costs by $150,000 represents a 12 per cent reduction in total budgeted for the year.

Reduction goals by department include: General manager, $500; legal, $700; community relations, $1,000; contracts, $6,000; marketing analysis, $700; military space ing analysis and planning, $700; military space programs, $2,500; reliability control, $5,500; finance, $8,000; material, $19,500; industrial relations, $7,000; research and engineering, $39,400; launch vehicle programs, $34,900; operations at Kearny Mesa plant, $15,800, and operations at Lindbergh Field plant, $8,500.

ORDNANCE ASSN. ELECTS SWANSON

George Swanson of the Defense Contracts Administration Services office at Convair has been elected a board member of the San Diego Chapter of the American Ordnance Association for a two-year term expiring in December, 1969.



FONE FIGURES—Sugar Williams, steno-secretary in Dept. 551-0, reminds Convair employes that one of division's Conservation Program goals is to reduce budgeted telephone costs by $150,000 this year.

Dr. Arthur Secord To Address Club

Dr. Arthur Secord, professor of speech and director of community service at Brooklyn College, New York, will be main speaker at this month's Convair Management Club meeting.

Dinner meeting will be held Wednesday, March 27, in the International Room of El Cortez Hotel. Social hour will start at 5:30 p.m.; dinner at 7 p.m.

Tickets, at $3.50 each, will be on sale by club Boosters starting this week.

Research and engineering is sponsoring. Dean McCoy is in charge of arrangements.

Color Movie Features F-111

"Design for Freedom," a new six-minute color motion picture demonstrating capabilities of the General Dynamics F-111A variable sweep-wing fighter, is being shown by theaters and television stations across the country.

Robert Montague, chief of motion pictures and television for Convair division and picture editor for the film, said 300 16-mm prints have been mailed to TV stations and 100 35-mm prints distributed for circulation among theaters.

The film includes footage on wing transition in flight, low-level supersonic flight and ease of maintenance through changes of modular components. Operations are shown under a variety of environmental conditions including desert heat, arctic freezing and tropical rainstorms.

One unusual film segment follows a shadow of the F-111A across the desert floor and shows shadows of shock waves generated by the aircraft's fuselage, wings and tail.

Film clips used were taken by Fort Worth division and the script was written at General Dynamics Corporate Headquarters. Actor George Brian was narrator and Bill Woods of Convair handled sound editing and mixing.

Inquiries concerning availability for local showings to civic organizations, etc., may be directed to divisional public relations departments.

Fatigue Specialist Author of Article

Clarence Smith, Convair fatigue specialist (Dept. 587-0), is author of a four-installment article, "Design Tips for Preventing Fatigue Failure," which will be published in the Assembly Engineering magazine. First installment will appear in the March issue. Others will run in April, May.



MERRY-GO-ROUND?—Looking much like hobby horses on a merry-go-round, F-111 pylons hang from newly-installed overhead carriage line in Convair production area in AF Plant 19. At left, L. C. Hare, assistant foreman, watches Gene Arnaud, electrical assembler, put finishing touches on pylon coming off end of 140-ft. line.

New Overhead Line Speeds F-111 Fixed Pylon Production

An overhead carriage line to streamline production of F-111 fixed armament pylons has been erected in Convair's pylon production area at Air Force Plant 19.

L. C. Hare, assistant foreman of the pylon section, said that the innovation was conceived to facilitate production, smooth the work flow, and reduce costs.

Before, structures were built up in fixtures and stands and had to be turned, sometimes upside down, for installations. Two men working on the same pylon rarely had enough elbow room. Then each pylon had to be manually carried from fixture to fixture.

On the carriage line, pylons are secured to steel rods at about the same height as on the bench and are accessible to workers on all sides and top and bottom. The area is also easy to keep clean with no obstructions underneath.

The 140-ft. line has 20 stations, room for five ships sets. The stations are spaced five feet apart by a spreader bar between each carriage. Beam assemblies are loaded at the south end of the line. They move through assembly steps: installation of bottom structure, fitting of forward skin fairing, prefitting of access doors, installation of bomb rack and electrical harness; electrical check on harnesses; and final phasing and closing, ready for the paint shop.

After a completed pylon is removed and set down into a cradle at the north end, brakes are released on the line and three people move the whole line forward one station. The last carriage is taken off and placed at the beginning of the line for another beam assembly.

Hare and Frank Miller of plant manufacturing methods worked out the line conception which was put into concrete design form by Convair plant engineers.

If the line proves its worth, and in the couple of weeks or so it has been in use there is no doubt that production has been speeded, Hare said, a similar line may be installed for pivot pylons parallel to the present one.



Living Under the Sea: A report from General Dynamics

The public address speaker screams, "Dive, dive!" In the flickering light of a dank interior, sweaty bearded sailors tumble to battle stations. . . .

This Hollywood image of a submariner's life was, even during World War II, largely stereotype. It is a far cry from life in today's United States Navy nuclear submarines.

Even though about three-fourths of the ship's interior is taken up by machinery, weapons and stores, there's also room for up to 136 men to eat, sleep, relax, work efficiently and remain alert. The sailors who man these submarines on continuously submerged patrols for two months at a time lead a surprisingly comfortable life.

Here's a fairly typical day for nuclear submariner Bill Reilly, Electronic Technician Third-Class.

0700 hours. ET/3 Reilly is awakened by a shipmate. Along his bunk's 6′6″ length—long, wide and deep enough for comfortable sleep—recessed fluorescent fixtures dispel the night. Another "day" has begun.

30,000 meals:

0715 hours. Reilly's baritone bounces around the private stall shower. He need not worry about quick sudsing and rinsing; nuclear submarines can distill an ample supply of fresh water.

0730 hours. Breakfast time. More than 30,000 individual meals will be served during the ship's extended patrol—prepared in a galley smaller than the kitchen of an average suburban home. The galley has been laid out to a careful time-space-motion plan. Provisions are stored for easy accessibility in planned sequence. Meat is pre-trimmed; chicken deboned to save precious space. Ice cream cones—by the thousands—are tucked into odd crannies.

0800 hours. Reilly's first four-hour watch begins. His job: monitoring a navigation computer.

All around him the ship stirs with action as crew members go about daily chores (just as Reilly will between his regular watches)—inspecting, cleaning, maintaining.

"Scrub, burn and filter":

Nuclear submarines do not need to surface to get air for their engines, but Reilly's still a deep breather. Carbon dioxide, exhaled by the crew at the rate of 110 cubic feet each hour, is removed by "scrubbers" before it can build into a dangerous concentration. Oxygen, manufactured by water electrolysis, is fed back to the ship's atmosphere. Over 300 potential contaminants are removed by filtration, electrostatic precipitation or catalytic burning.

Revitalized air, purer than that breathed by city dwellers, is recirculated throughout the submarine, conditioned to a comfortable humidity and 70° temperature.

1200 hours. Lunch. On today's menu: chicken cacciatore.

Off-watch:

1250 hours. At the ship's laundromat, Reilly drops off his coveralls, made of lint-free polyester to eliminate one potential irritant from the atmosphere; he stops at the 2,000-volume library to pick up an electronics textbook he's studying for college credit.

1315 hours. Alarm signal! Reilly double-times to his duty station. This time it's a fire drill. It might have indicated a potential enemy's presence or a dozen other contingencies. Alarms are sounded at unscheduled times, day or night, throughout the patrol to keep the crew on its toes.

1415 hours. He routinely checks one of his alternate drill stations, then works off some lunch calories with a session on the exercise bicycle.

1600 hours. Reilly spends the next hour making some minor adjustments to one navigation computer that is temporarily "down." Each man on a nuclear submarine is responsible for the performance and maintenance of the equipment that he operates.

As he moves about the ship he continues to study its 110 miles of complex wiring, a requirement for many crew members so a fault can be quickly traced if necessary.

Versatile mess:

1700 hours. At one end of the mess, a checkers tournament is going on. At the other, Reilly—with one shipmate posing and two others kibitzing—is finishing off a watercolor.

The mess is the most versatile room on the submarine. At various times it becomes movie theater, gym, game room, lecture hall and music room. Two days from now, Sunday, it will become a chapel.

1800 hours. Dinner; lobster—a reminder that today is Friday. Last night the cooks surprised everyone with a Hawaiian luau. The night before, it was roast beef. Food on a submarine is a major morale factor for the crew.

Leftovers are inevitable. Garbage is compacted into a container, weighted, and blown into the sea, where it sinks to the bottom.

1900 hours. The mess has now become a movie theater—tonight Reilly and some of his shipmates enjoy a new James Bond picture, well before it's been released to the general public.

In the unseen world above the surface it is dusk. On extended submerged patrol, every effort is made to make life as comparable as possible to surface duty. The control room is "rigged for red," that is, switched to a dull red illumination; ordinary lights are dimmed to remind the crew that another day is passing into night.

Shhh!:

Despite 007's noisy battles—or later the sound of hi-fi music—nuclear submariners live in a quiet world. Sounds are muted by vinyl tile decks and acoustic tile overheads. Vibrations are minimized. Turbines, fans and other moving equipment are surrounded by special sound-deadening material.

2000 hours. Bill Reilly begins his second four-hour watch. Others, who are now off-watch, are relaxing, reading, getting ready to bunk down—and some are still sleeping before being awakened later.

2400 hours. Midnight. The ship is quiet. His watch over, Reilly bunks down, draws the curtains for privacy, turns on the overhead fluorescent and reads for a while. He yawns, adjusts the air vent at the head of his bunk, switches off the light. He is asleep.

In building almost 300 submersibles—including the prototypes of most American nuclear submarines—habitability has been a prime concern of General Dynamics designers and engineers since 1900 when the company delivered the United States Navy's first.

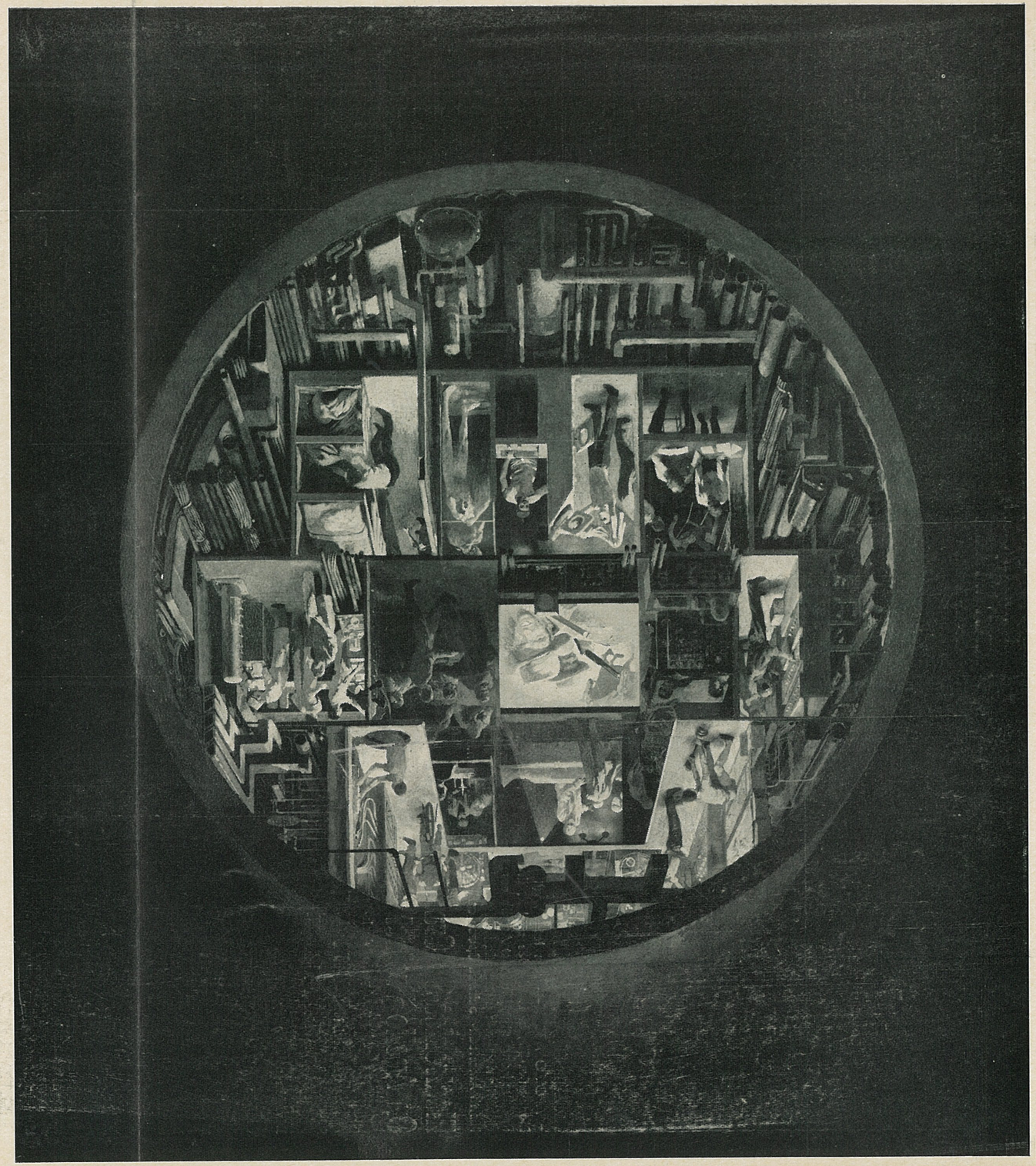
General Dynamics is a company of scientists, engineers and skilled workers whose interests cover every major field of technology, and who produce: aircraft; marine, space and missile systems; tactical support equipment; nuclear, electronic, and communications systems; machinery; building supplies; coal, gases.

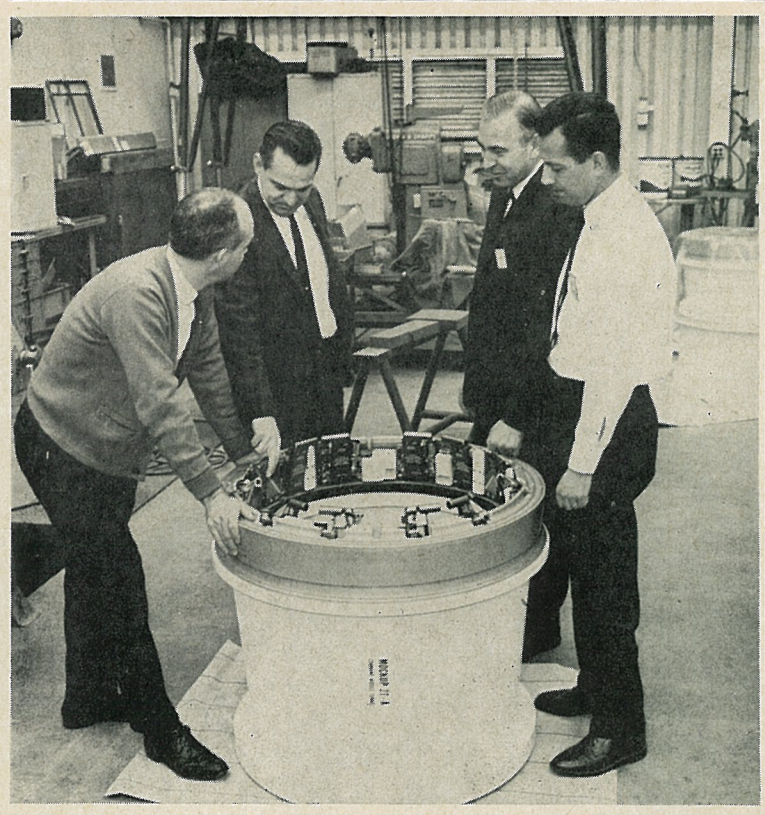
Reprints of this series are available.

GENERAL DYNAMICS

One Rockefeller Plaza, New York, New York 10020

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APOLLO ASSIST—From left, Walt Barrett and John Murray of Electronics-SD, L. L. Rhodes and R. E. Wilkinson, North American-Rockwell engineers, inspect Apollo command module and attached docking ring with automatic latches fabricated at Electronics-SD for North American-Rockwell Space and Information Division.

Electronics-SD Craftsmanship On Apollo Project Praised

Sections of two Apollo docking simulators fabricated at Electronics division's San Diego operations were delivered late last month to North American-Rockwell Space and Information Division at Downey, Calif.

The simulators will be used by astronauts for training purposes.

Spacecraft hardware of the tunnel section and latch mechanisms will provide access from the Apollo command module to the lunar module for the astronauts during lunar orbit.

Each simulator consists of a command module tunnel, lunar module tunnel, docking ring containing 12 automatic docking latches, and associated hatches.

Machining of exotic metals such as titanium and inconel to the close tolerances required for the latch assembly was accomplished through extraordinary efforts of workers assigned to the task, Walt Barrett, project engineer for Electronics-SD, said. Manual set-ups for machining latch housings were used after a study proved that use of numerical-controlled machines would not be economically feasible due to schedule and the small quantity produced.

North American - Rockwell representatives commended shop personnel for expert craftsmanship exhibited in assembling and functional testing of the complex latch mechanisms.

Hardware was built and assembled under direction of John Murray, general foreman. Convair provided assists on machining tasks and processing of fabricated parts.

Parts of the task were particularly demanding, Barrett explained, since this was a first-time job on a first-time model. North American-Rockwell provided program support with on-site representatives.

Clinch Crocker Takes a Rest After Over 40 Years Service

Clinch N. Crocker, accounts payable supervisor in Convair's general accounting Dept. 191-0 at Kearny Mesa, retired Feb. 29 after more than 40 years service with the company.

He began his career July 21, 1927, as chief accountant for Stinson division in Wayne, Mich., when he and Art Ackerman, treasurer, were the entire accounting department, doubled as purchasing agents and had only an adding machine and hand calculator as business aids.

Crocker was chief accounting controller for Nashville division of Vultee Aircraft in Nashville, Tenn., from 1940 to 1946 then, after 16 months as auditor for San Diego division, returned to Stinson division as accounting supervisor and controller.

He returned to Convair division in 1949 as an accounting assistant supervisor, became accounts payable supervisor in 1951 and moved to Kearny Mesa with the former Astronautics division in 1963.

Crocker was honored by fellow employes at a retirement party Feb. 29 at the Town and Country Hotel.



RETIREE—Clinch N. Crocker, left, accounts payable supervisor for Convair since 1951, retired at end of last month after more than 40 years with Company. He is shown reviewing material with John Jodka, manager of general accounting.

Rockhounds Slate Desert Weekend

Convair Rockhounds will travel to Joshua Tree National Monument Park over the weekend of March 23 and 24 to search for nephrite jade.

The jade in dark olive pattern, varying from green to black, is found at Storm Jade Mountain. A fee of $5 entitles each person to 10 pounds of jade and 25 pounds of assorted rarities.

Camping facilities are excellent at Cottonwood Springs Campsite. Collectors will leave from Cottonwood Springs Camp at 9 a.m. Saturday for the collecting area. Special entertainment around the campfire on Saturday night will be put on by Explorer Post 900's Lakota Indian Dancers, a special family participation group.

CRA bulletin boards at all plants will carry map details.

For further information call John Clancy, home phone, 463-8010, after 5 p.m.

Volleyball League Being Organized

Volleyball players at Convair, Electronics, and Stromberg-Carlson can form teams now to enter in intra-mural shop league play this spring.

Teams should be listed with Pete Beyrer, CRA Headquarters, ext. 1111 KM, so that the league may be organized. A managers meeting will be called in April.

League play will start by the first of May and run 10 weeks. Individual trophies and an award banquet will go to the top team at the end of the season.

Courts are available in the Federal Bldg., Balboa Park, on Wednesday evenings from 7 to 10 p.m. for practice.

Corsages Offered By Garden Club

General Dynamics people may order cymbidium orchid corsages for Easter and Mother's Day through the Convair Garden Club.

Single flowers are $2; double, $2.50.

Colors are white, blush, light or deep yellow, light or dark green, tan, brown, yellow with red lip, light and dark red. Ribbons can either match the color of the flower or contrast.

Corsages may be reserved for either April 14 (Easter) or May 12 (Mother's Day) through Everett Henderson, Garden Club Commissioner, 3503 Yosemite St., Pacific Beach, phone 274-1754.

Convair Son Winner Of Top Science Award

Glen A. Evans, son of Harold A. Evans of Convair's art and editorial department, won the sweepstakes award at the Crawford High School Science Fair, and consequently a spot in the Greater San Diego Science Fair coming up March 26-31.

The 15-year-old boy's project, titled "Heart Rate Response of the Terrestrial Isopod to Thermal Acclimation," investigates heart rate of sow bugs in various temperatures.

He won a third place in last year's Greater San Diego Science Fair.

Spring Rose Show Scheduled April 7

Convair Garden Club will stage its annual Spring Rose Show Sunday, April 7, in the Floral Association Bldg., Balboa Park.

The public will be admitted free between 1 and 6 p.m.

Entries will be accepted in 78 classes including roses, arrangements, corsages, children's divisions. Roses are classed by hybrid tea and grandiflora, one to the stem, gradiflora, more than one to a stem, and floribunda. They must be grown by exhibitors.

When telephoning, never mind the weather. Get to the point. Telephone time costs money.

Safety, Housekeeping Contest To Include Test Laboratories

Convair's safety and housekeeping departmental competition has been expanded to include research test laboratories and some support functions, in addition to production departments already in the program, J. P. Hopman, chief safety engineer, announced.

All departments in the safety and housekeeping program have been grouped according to their hazard exposure. All production departments are assigned to Group 1. The 17 lab and other functions, newly drawn into the program, will be judged as a separate group, Group 2. Each will be judged monthly by existing safety and housekeeping competition rules.

At the end of the year, supervisors of the winning department in each group will be invited to the annual awards safety dinner. Awards for best safety-minded departments in 1967 will be presented this month.

Hopman said that the competition eventually will be extended to include engineering and administrative functions so that the entire division will participate in the contests.

Departments now in the new Group 2 are: Dept. 016, electric bench LF; 059, production control LF; 101, data processing; 141, 142, 143, 144, reliability and quality assurance, reliability LF, wind tunnel, electronic test labs KM, material and processes labs KM and LF, engineering test facility at Harbor Drive Facility, life sciences lab, space sciences lab, R&D, test equipment and harness KM, production control KM, LVP graphic reproduction and labs KM.

* * *

With the move of the main safety office to the Lindbergh Field plant, safety engineers have been reassigned, Hopman said.

Sam Galasso, who has transferred to safety from educational services, and Dick Schulz are at Lindbergh Field. Jim Cooper is safety engineer at Plant 19. Len Breen, industrial hygienist, remains at Kearny Mesa.

These safety engineers will have responsibility for both first and second shifts.

Convair and Solar To 'Shoot it Out'

Convair and Solar pistol teams will meet in an inter-company match Sunday, March 24, at the San Diego Police Pistol Range.

Trophies will go to first and second-place teams.

Harry Black topped the .22-cal. Police Course in CRA Pistol Club competition Feb. 25. His score of 292 in the master's was just one point ahead of runner-up Jim Halfacre's.

Warren Walker won expert class with 287. Ralph Picard was second with 273.

Roland Schneider led the field in Short National shooting with 254. A. E. Kampmann was second, 243; Halfacre, third, 238; and Walker, fourth, 231.

Fishermen Accept Awards at Banquet

Arthur Ramsey and Earl McDaniel represented the Convair Fishing Club at the annual awards dinner of the Southwest Anglers Button Award Association Feb. 23 in Inglewood, Calif.

Ramsey and George Theilacker of the CRA club received trophies — Ramsey with a 75-lb., 14-oz. yellowfin tuna which set a new record; and Theilacker with a 200-lb. marlin.

Altogether 55 trophies were awarded for largest fish or game turned in for 1967 by member clubs of Southern California. Ramsey's record fish was one of seven recorded during the year.

Design Draftsman Will Show Slides

A narrated color slide showing of "The Pre-Columbian Cities of the Maya," will be presented by J. C. Hooper, Convair design draftsman, at next week's meeting of CRA Adventurers.

The slides display the remains of the once-flourishing Mayan civilization in Southern Mexico and Central America where Hooper has spent a great deal of time photographing ruins in the jungle.

The program will be March 20, 7:30 p.m., in the CRA auditorium. All GD employes and their friends are invited.

GD Illustrators Earn Awards

Work of four General Dynamics illustrators at four localities won awards of excellence in the 15th annual exhibition sponsored by the Technical Illustrator's Management Association.

TIMA's Exhibition of Technical and Industrial Art opened Feb. 25 at the California Museum of Science and Industry in Los Angeles. The show, which continues through March 24, annually attracts upwards of 100,000 viewers.

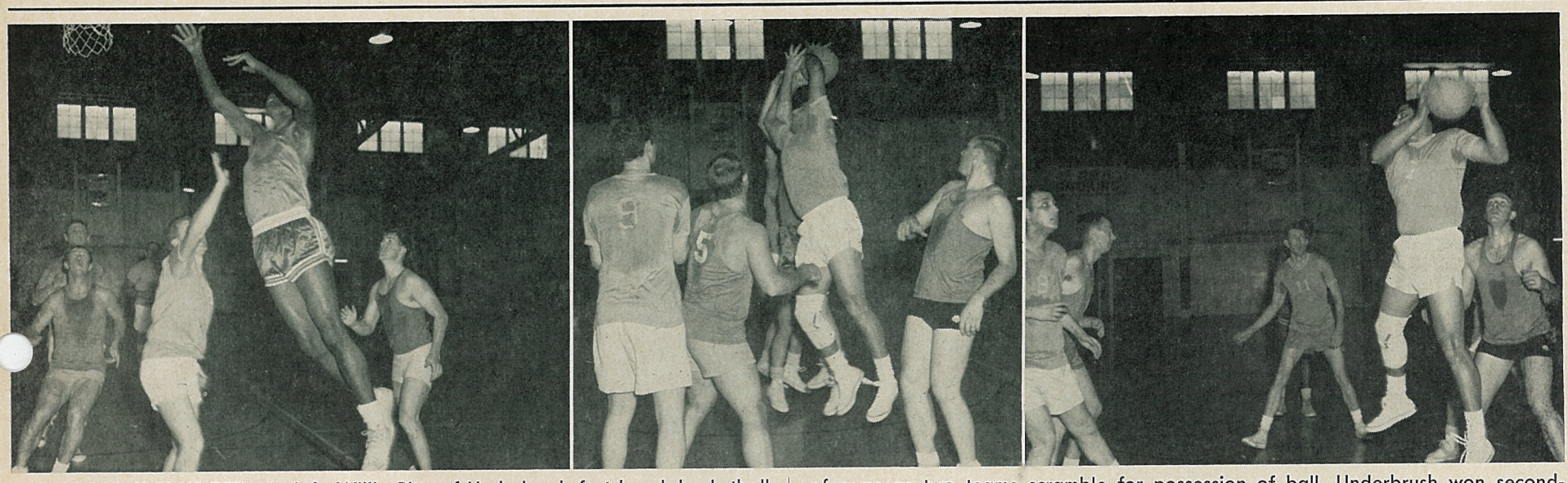
Burton S. Brockett of Convair received first place and honorable mention awards for posters. First-place award was for a good housekeeping poster and the honorable mention was for a Craftsmanship design.

Noyel Gant of Fort Worth received a second-place award. Third-place awards went to Ken Gibson of Canadair and R. D. Kinney III of Pomona.

D. C. Tubbs of Pomona, a past president of TIMA, served on a committee this year for the TIMA Seminar held Feb. 24. This one-day affair featured outstanding technical communications experts speaking on subjects ranging from illustrator educational requirements to the effects of automation on technical arts.



ARTISTIC HONORS—Burton S. Brockett, left, art coordinator in Convair's art and editorial Dept. 517-0, shows award certificates won in national Technical Illustrators' Management Association competition to his supervisor, Norman J. Rutherford. Good housekeeping posted (right background) won first place award and adjacent Convair Craftsmanship "Type right the first time" poster an honorable mention.



FAST BREAK PLAY-OFF—At left, Willie Pitts of Underbrush fast break basketball team leaps high as he drops in basket in title play-off with Flight Control. At far right, Freddie Gatti of Flight Control catches rebound. Center shot shows tangle of arms as two teams scramble for possession of ball. Underbrush won second-round play-off game, 40-28, and went on next night to defeat Cosmos for first-half title.

Sixty Compete in CRA-Mgt. Club Winter Tennis Tournament

Sixty Convair division employes, family members and guests competed in the CRA-Convair Management Club winter tennis tournament last month on CRA, City College and Mesa College courts. Winners of each event will receive trophies.

In men's singles competition, John Bennett defeated Cecil Norwood, 6-1, 6-1, for the advanced crown; Bob Stecker edged Ed Pawka, 4-6, 6-3, 6-4, for intermediate honors, and Jurgen Alterman defeated Lin Stecker in a round robin in the novice division.

Men's doubles finals resulted in Cecil and Rick Norwood edging Dennis Sealey and Ray Hardy in a round robin for the advanced title, Rick Norwood and Ed Pawka defeating Ed and John Bennett, 6-1, 6-2, for intermediate honors, and Jurgen Alterman and Ed Zivolich winning over Lin Stecker and John Hall in a round robin in the novice division.

Vicki Jensen defeated Diana Griggs and Sharron Williams edged Thelma Zivolich in round robins for the women's singles intermediate and novice titles, respectively.

Vicki Jensen and Bill Connor won the mixed doubles title by defeating Diana and Mike Griggs in a round robin.

Adventurers Slate Trip to Caverns

CRA Adventurers will explore an isolated area within the Mitchell Caverns State Reserve 300 miles from San Diego over the weekend of March 23 and 24.

Families will make camp in the desert-type, primitive campsite in the Providence Mountains. Everyone must supply his own fuel and water.

Tours will be conducted through the Mitchell Caverns and the old mining area nearby. Other highlights in the vicinity is a sandstone formation, called "Hole in the Wall," about 20 miles from the caverns which can be reached by conventional vehicles. People with four-wheel drive vehicles will be able to see lava beds, sand dunes, and Indian petroglyphs in the region.

John Anderson, phone 277-5568, and Lee Trammell, 453-2639, are trip coordinators.

Chorus Rehearsals Scheduled Mondays

Rehearsals for the new General Dynamics Chorus are being held from 7:30 to 9 p.m. each Monday in the CRA Clubhouse. New director is Don Jackson, a San Diego State College music major and director of one of the "Up with People" groups.

Interested employes and family members and members of the former Choraleers and Astronotes have been invited to join. Tenor, alto, soprano and bass voices all are needed.

For additional information, call Jim Pate, ext. 1730 KM; Jo Ann Bray, ext. 1091 LF, or Walt Miner, ext. 1111 KM (after 4:30 p.m.).

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is March 19. Call ext. 3322 KM.)

★ ★ ★

ADVENTURERS — Meeting March 20, 7:30 p.m., CRA Clubhouse. Slide showing open to public. Weekend trip to Mitchell Caverns State Reserve March 23-24.

BADMINTON — Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park. Al Van Norman, ext. 1371 LF.

BICYCLE CLUB — 25-mile Rancho Santa Fe ride March 23. Leave Viking Restaurant in Rancho Santa Fe at 9 a.m. Call Chuck Cearley, ext. 3671 KM, or 748-1082. Short Sunday afternoon rides each week. Leave Islandia Hotel on Mission Bay at 2 p.m.

BOWLING—CRA plant championships April 20-21, 27-28, Pacific Rec. Entry forms available March 20 from employe services outlets. Blue Chip Stamp Night March 30, Pacific Rec., 6:30-9 p.m.

BRIDGE—Spring series starts March [illegible] 5:30 p.m., CRA Clubhouse. Play each [illegible]day evening.

CAMERA CLUB—Meeting March 17, 8 p.m., Photo Arts Bldg., Balboa Park.

CHORUS—Rehearsals 7:30 p.m., Mondays, CRA Clubhouse. Phone Jim Pate, ext. 1730 KM; Jo Ann Bray, ext. 1091 LF; Walt Minor, ext. 1111 KM after 4:30 p.m.

COINEERS—Meeting March 20, 7:30 p.m., Lindbergh Field cafeteria.

DELTA DIVERS — Meeting tonight (March 13), 7:30 p.m., CRA Clubhouse.

FENCING—Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FISHING—Meeting Tuesday, March 19, Gillespie Field Clubhouse. Potluck 6:30; meeting 7:30.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Mondays through Fridays; 10 a.m. to 5 p.m., Saturdays. Call ext. 1111 KM.

ICE SKATING — GD family skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

JUNIOR SCIENCE—Workshop March 15, 7:30 p.m., CRA Clubhouse.

MINIATURE RAILROAD—Work sessions Saturday mornings; meetings at noon first Saturday each month, CRA Missile Park. Al Kent, ext. 3314 KM.

MODEL HO RAILROAD—Work sessions 9 a.m. Saturdays and 7:15 p.m. Tuesdays, CRA Missile Park. Dave Fyffe, ext. 2101 KM.

PISTOL CLUB — Convair vs. Solar March 24, 9:15 a.m., SD Police Pistol Range.

RADIO CLUB — Meeting March 21, 7:30 p.m., CRA Clubhouse.

RIDING CLUB — Meeting tonight, March 13, 7:30 p.m., CRA Clubhouse.

RIFLES—Senior shoot tonight, March 13, 7 p.m.; junior shoot March 16, 1 p.m., Gillespie Field Range.

ROCKHOUNDS — Meeting tonight, March 13, 7:30 p.m., CRA Clubhouse. Field trip March 23-24 to Joshua Tree National Monument Park. Call John Clancy, 463-8010, after 5 p.m.

ROLLER SKATING — Family skate night March 18, Skateland, Front & G Sts. Tickets at 5c each available at all employe services outlets.

SAILING — Meeting March 27, 7:30 p.m., CRA Clubhouse. Call Jerry Toyen, ext. 1685 KM.

SCULPTURE—Workshop sessions Mondays, 7-10 p.m., CRA Clubhouse. Open to all GD employes.

SPORTS CAR CLUB—Meeting March 13, 7:30 p.m., Convair executive dining room, Lindbergh Field.

SQUARE DANCING — Registration closes March 19 for round dancing instruction, 8-10 p.m., CRA Clubhouse. Call Pearl Allen, ext. 1468 LF.

SWIMMING — Family swim night March 16, Mission Beach Plunge, 7-9 p.m. Tickets at 5c each available at employe services outlets.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m., CRA Clubhouse.

TRAILERS—Road Runners meet March 28, 7:30 p.m., Gillespie Field Clubhouse.

WIVES CLUB—Potluck and craft session March 27, CRA Clubhouse.

Shop Title Won By Underbrush

Underbrush, last year's fast-break basketball champ, repeated to take the shop title in two play-off games late last month.

It downed Flight Control, 40-28, to win the second round of league play. Underbrush, Flight Control, and Road Runners ended the season in a three-way tie for second-half title. Flight Control won over Road Runners in the first elimination play-off.

To cinch the season's championship, Underbrush had to clear away a make-up game with the Cosmos team to determine winner of the first half. But that proved no obstacle. Underbrush won, 52-45.

Team members of Underbrush as fast-break champ, and Gyros as title-holder of the slow-break league, will be feted at an awards dinner this week in the Lindbergh Field executive dining room.

'Over Line' Softball Tourney Scheduled

First annual "over the line" softball tournament will be held by CRA in April as a kickoff to the regular softball season.

The single elimination tournament is open to all General Dynamics employes and dependents.

"Over the line" contests are played with three men on a field 75 feet wide. Each pitcher pitches to his own men. Batters must hit the ball in the air over the line, 60 feet from the batter's position.

The games are five innings or an hour time limit.

This type of softball contest has proved very popular with the public. Last summer's annual "over the line" tournament at Mission Beach drew around 10,000 people to watch the 257 competing teams.

Bridge Club Begins Seven-Game Series

CRA Bridge Club begins a spring series of seven games this Friday, March 15, at the regular weekly play, 7:30 p.m., in CRA Clubhouse. Winner will receive a trophy.

All employes and their spouses are invited to participate, Commissioner Bob Rustad said.

Mr. and Mrs. Rustad won the February Master Point game and the March Master Point game was won by Mr. and Mrs. Howard R. McCullough.

Mgt. Club Bowlers To Enter Tourney

Convair Management Club bowlers will take part in the annual NMA Zone A tourney set for March 23 and 24 at El Cajon Bowl.

Events will be five-man handicap only. Members of the Convair club will be charged just $1 apiece with the club picking up the rest of the tab.

To enter call Mike Brooks, ext. 2916 KM, or home phone 469-8793 after 5 p.m. Entries will be taken right up to the tourney date.

April 12 Is Deadline For CRA Keg Tourney

General Dynamics keglers are getting in shape for the annual 27th CRA championship tournament scheduled for the last two weekends in April at Pacific Recreation.

Tourney dates are April 20-21 for team events; April 27-28, doubles and singles.

Deadline for entering is April 12.

The early bowling tournament, open to all Convair, Electronics-SD, and Stromberg-Carlson employes and members of their immediate families, will select champions in men's and mixed team events, men's and women's singles, men's and mixed doubles, and men and women all-events.

Handicaps will be based on 1967 book averages. If no official average is available, current highest averages of 21 games or more will be used, or an assumed average of 200 for men, 160 for women, maximum team average of 855, and maxium doubles, 370.

Five sanctioned bowlers may form a team and enter without the payment of additional membership dues as formerly required. Bowlers may enter only in doubles and singles and mixed team or mixed doubles. Doubles only or singles only will not be accepted. All women's teams will compete in the mixed division.

Fees are $2.25 per person for each event entered. Optional all-events fee is $1 per person.

Entry forms will be available after next Wednesday (March 20) at all bowling alleys where CRA-sponsored leagues are in action, CRA Clubhouse, and at all plant employe services outlets.

CRA bowling commissioners, Mike Brooks and Jim Hayman, are directing the tournament. They may be reached by ext. 2916 KM for Brooks, and ext. 581 LF for Hayman.

Rifle Club Sponsors Two Junior Events

Two events for junior shooters will be sponsored this spring by Convair's Junior - Senior Rifle Club.

The CRA group is now laying plans for the 4th annual San Diego Junior Regional at Camp Pendleton May 4. Any interested junior, 18 and under, may take part in the NRA registered match.

Pre-registration must be made before April 29 by calling Commissioner Dick Zeich, ext. 640 LF.

Zeich also may be contacted for registration for the junior summer league starting in April at Gillespie Field Range. It will be a registered shoot, handicapped, all prone, five matches.

Juniors shoot regularly the first and third Saturdays at 1 p.m. and seniors on the second and fourth Wednesday evenings at 7 p.m. at Gillespie Field.

Bob Wagner Winner In Rifle Match

Convair rifleers took the three top spots in the shoot-off of National Rifle Association's winter league Sunday, March 3.

Bob Wagner of the CRA Senior Rifle Club had highest score of the seven San Diego finalists. Dave Farrelly Jr. of the Junior Rifle Club was second, and CRA Commissioner Dick Zeich, third.

The shoot-off climaxed league competition which began last October.

'Bonus Bowl Night' Ahead For Keglers

A "bonus" bowling night has been set up for all GD bowlers March 30 to introduce them to Pacific Rec alleys.

Blue Chip Stamp Night, as the bowling offer is known, will start at 6:30 p.m. and run until 9. Bowlers receive 300 blue chip stamps with their entry fee of $2.50. Then, they receive extra stamps for strikes and toppling colored pins.

To enter call CRA Clubhouse, ext. 1111 KM, or Pacific Rec, 296-1649.



MOUTH-WATERING CATCH—Chuck Morgan of CRA Fishing Club anticipates delectable trout fry as he checks over catch of 20 he and son, Mike, reeled in during recent fishing trip to Doan Pond on Palomar Mt. Largest were 14 inches.



VSX TOUR—Earl Boteler, Convair program manager for VSX project, admires plaque presented by Cdr. R. A. Costigan during recent inspection tour of Convair's VSX mockup area arranged for Squadron VS-37, based at North Island NAS. Plaque, bearing squadron insigne of hand snatching at submarine, was in appreciation for Convair hospitality.

GD Team Conducts Study in Viet Nam

Three General Dynamics representatives spent several days in Viet Nam and other Southeast Asian countries last month while on a three-week tour to observe aeromedical evacuation systems and procedures for a study being conducted by Convair division for the Air Force Systems Command.

They were John P. McCann, MD, Corporate director of health and safety; J. R. Burnett, systems engineer for the study from Convair's life sciences Dept. 592-0; and Lt. Col. Aileen Brimmer, a retired Air Force nurse and consultant to Convair for the study.

Dr. McCann said the three-member team, operating individually, flew with hundreds of wounded and seriously ill personnel—some only a few hours removed from the battlefield—and conferred at length with aircrews, nurses and medical technicians involved in casualty evacuation.

"We are doing a systems analysis of the entire aeromedical evacuation service to develop guidelines for future research and development work that in time will enable the system to handle movement of any patient at any time to any place in the world without adverse affect on his condition," he said.

Evacuation and medical care of the injured was observed at almost every air base in Viet Nam and Thailand and at "staging facilities" in Japan and at Clark AFB in the Philippines.

Burnett made one flight to a forward area for casualty evacuation on a C-123 with Maj. Joseph W. Craver Jr., who spent last year at Convair in the Air Force "Education with Industry" program.

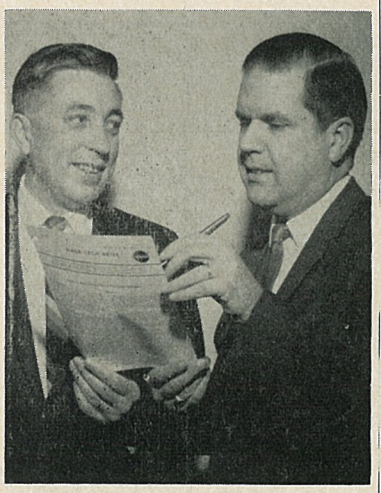
Dr. McCann, director of the study and a retired Air Force colonel and former deputy surgeon for the USAF Air Training Command, said morale of the aeromedical evacuation personnel generally is excellent although work for extremely long hours is commonplace.

"It is not infrequent for the injured to be transported to an operating room within 30 minutes and evacuated to hospitals in the States within days," he said.

Burnett returned to the U.S. as a "litter patient" aboard a C-141 with burn victims en route to Fort Sam Houston, Texas. While waiting to board the plane in Yakota, Japan, he suffered a knee injury when a vehicle behind which he was standing was struck by a truck.

Hollar Receives $25 NASA Award For Technological Innovation

William T. Hollar, supervisor in process quality control Dept. 141-2, has become the first Convair employe to receive a $25 NASA award for submitting information on a new technological development that has been published as a NASA Tech Brief.



FIRST AWARD—William T. Hollar, left, Dept. 141-2 process control supervisor, reviews NASA Tech Brief with Grant L. Hansen, vice president-launch vehicle programs. Hollar was first Convair employe to receive $25 NASA award for submitting information published as a Tech Brief.

Hollar developed a technical innovation in which liquid crystals were used to detect voids in fiberglass laminates in tests at Convair's Kearny Mesa plant.

The new transparent cholesteric liquid crystals show dramatic color changes when "painted" onto a dark surface or dark mylar-film over a surface and exposed to minor variations of heat as the test article is heated. The color sequence occurs in reverse as cooling occurs.

Hugo Mohrlock, NASA new technology representative for Convair, said inquiries about the process have been received from several other industrial firms since Hollar's innovation was described in the NASA Tech Brief in August.

Several other Convair employes are expected to receive similar award checks within the next few weeks for information on other innovations that have been developed at Convair in performance of work under NASA contracts and published as Tech Briefs.

Neil Martin, Convair patent attorney, said NASA also recently instituted a patent awards program under which payments of from $50 to $5,000 may be made to Convair employes who develop new technology for which patent applications are filed.

Hendrix Slated For Mar. 20 Talk

Algie A. Hendrix, Corporate vice president, will talk on the Corporation's Management Upgrade program and review divisional progress at the March 20 meeting of the Electronics division's San Diego operation Management Club meeting.



Algie A. Hendrix

Electronics-SD, together with all the General Dynamics divisions and subsidiaries, is actively involved in the program, geared to develop potential and managerial ability of its personnel to the fullest.

"How well we develop the management ability of the people already with our operation will help determine the degree of our business success," D. C. Prim, Electronics-SD general manager, said.

"Through the Management Upgrade program, we have identified those with the necessary potential and have begun their development. We must keep them; coach them; instill in them the desire to take the initiative and to excel; help them plan, and measure their performance against, objectives that are meaningful to the organization; develop the concept of changing disadvantage to advantage; and, finally, charge them with the responsibility of running a successful and growing business."

Hendrix also will discuss the overall Corporate structure, and Electronics-SD's position.

The dinner meeting will be in the Bay Room of the Kona Kai Restaurant on Shelter Island. Social hour is at 5:30 p.m.; dinner at 6:30; and program at 7:30.

Tickets, at $3.75 each, now are on sale from club Boosters.

Students Reminded About Scholarships

There are just a couple of weeks left for Convair sons and daughters to file applications for Convair Management Club scholarships. All applications must be submitted by March 31.

Four scholarships of $500 each will be awarded. Winners will be chosen by May 25 by an outside panel of judges following screening by a Management Club committee.

Application forms are available from educational services offices at both plants or from the Management Club office at Kearny Mesa, ext. 3146. They also may be obtained through local high schools.

These forms, together with high school transcripts, must be turned into the Management Club office, KM, mail zone 130-00, by the end of this month.

GD's Harbor Drive Facility Undergoes Major Updating

General Dynamics' Harbor Drive Facility has received a new look with completion of major improvements to modernize the company's test site along the south side of Harbor Drive near Lindbergh Field.

The $130,000 modernization project, begun early last summer, was completed with opening of the new entrance early last week.

Building and all facilities have been painted a warm tan and updated and grounds landscaped to harmonize with adjacent areas along the main thoroughfare leading to San Diego's City's new air terminal.

The entrance off Harbor Drive has been relocated about 1,000 feet west of the former access road. A large sign, 25 feet high, marks the facility location. Decorative concrete walls curve on either side of the wide driveway leading into the west end of the site. A tall flagpole bears the United States flag and Convair division's Craftsmanship banner. Landscaping surrounding the entrance is watered by an automatic sprinkler system.

Inside, all old World War II temporary buildings have been removed, as has all the old tooling and engineering test set-ups no longer in use.

Electrical and telephone wiring has been laid underground and modern lighting fixtures installed to replace the former floodlights.

A new 2,400 sq. ft. hydraulic and welding shop has been constructed near the structural test laboratory.

A new chain link fence has been erected.

Although Convair division coordinated the entire project, other General Dynamics facilities sharing use of the site, namely, Marine Technology Center, GD high speed wind tunnel, and Gulf Atomic (at that time owned by General Dynamics), shared in the cost.

Design concept was submitted by Tucker, Sadler, and Bennett, architects coordinating improvement of the entire port area. Actual design was carried out by Convair plant engineering under direction of D. C. Jervis. E. G. Kiener is present project engineer for plant engineering and N. C. LaRosa, industrial engineer for the division's facilities engineering.

Convair construction crew, under M. L. Goolsby, plant engineering assistant foreman, prepared the site and installed electrical and mechanical facilities in the hydraulic and welding shop.

W. J. Stanley, manager of plant engineering, and R. D. Leonard, general supervisor, were responsible for the overall project for Convair.

Six-Week Computer Course Scheduled By Management Club

Two Management Club-sponsored courses begin for Convair people this month, one at Kearny Mesa plant and the other at Lindbergh Field.

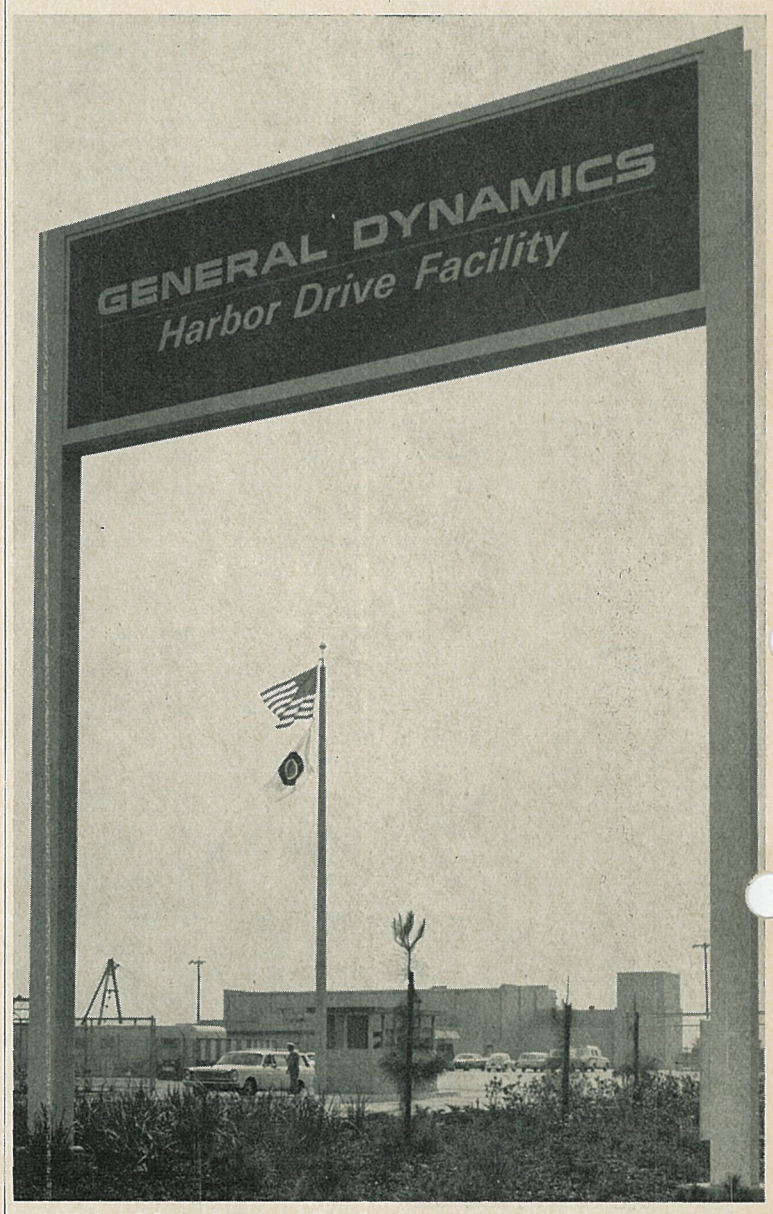
"Computers - a management tool," a six-week Convair Management Club course, will be held from 5 to 7 p.m. Thursdays beginning tomorrow, March 14, in the Bldg. 2 presentation room.

The course will cover basic techniques and pitfalls for today's user of computerized data processing and information on Convair division's data processing capabilities.

Hugh A. Shepard, an electronic data processing senior programmer and project leader in Convair's data systems Dept. 170-1, will instruct. There will be no charge for the course and attendance will be limited to Management Club members.

"Effective Writing," taught by F. M. Boley, engineering writer, will start March 27 and continue for eight weeks. Classes are Wednesdays, 4:30-6 p.m., at Lindbergh Field, Bldg. 5, third floor, Room 338.

The course involves the mental approach and philosophy of effective writing rather than grammar. It is open to Management Club members without charge. Fee for non-members is $2.

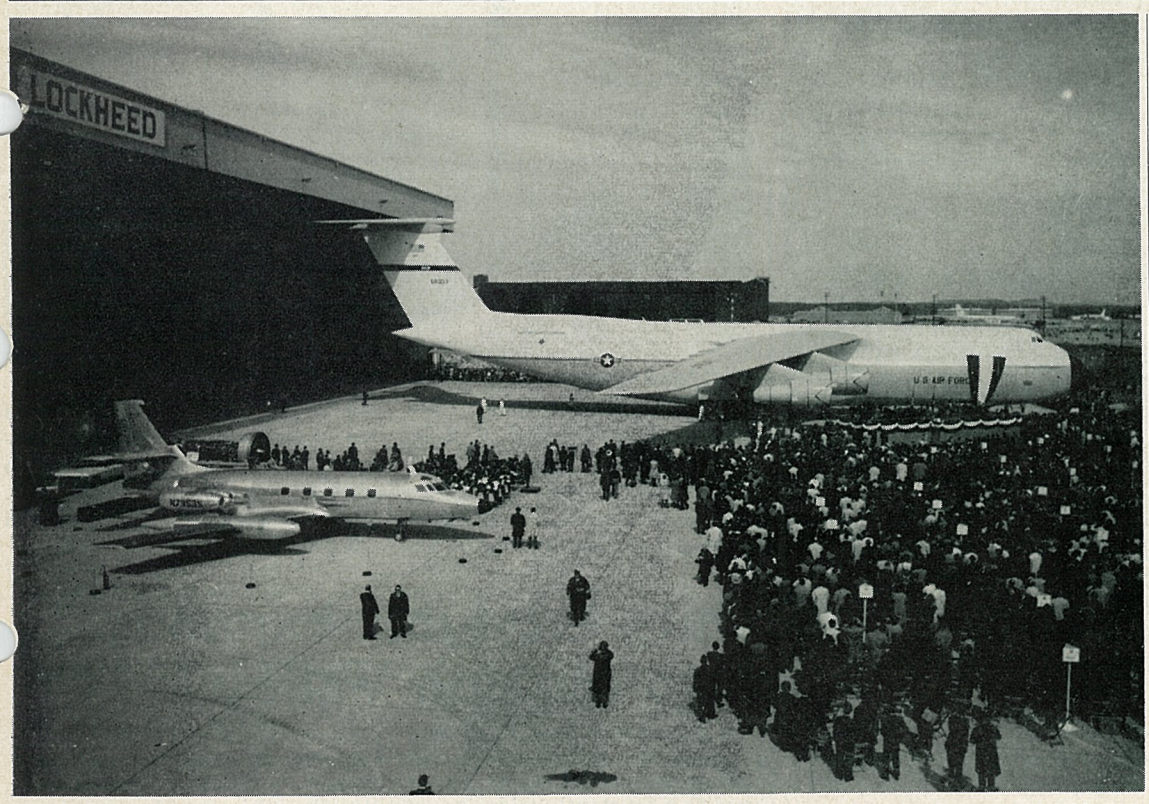


NEW LOOK—Large 25-ft.-high sign marks new entrance to recently renovated General Dynamics Harbor Drive Facility which borders south side of Harbor Drive. Entire facility has received new paint job, updated electrical lighting, new fence in improvement project.

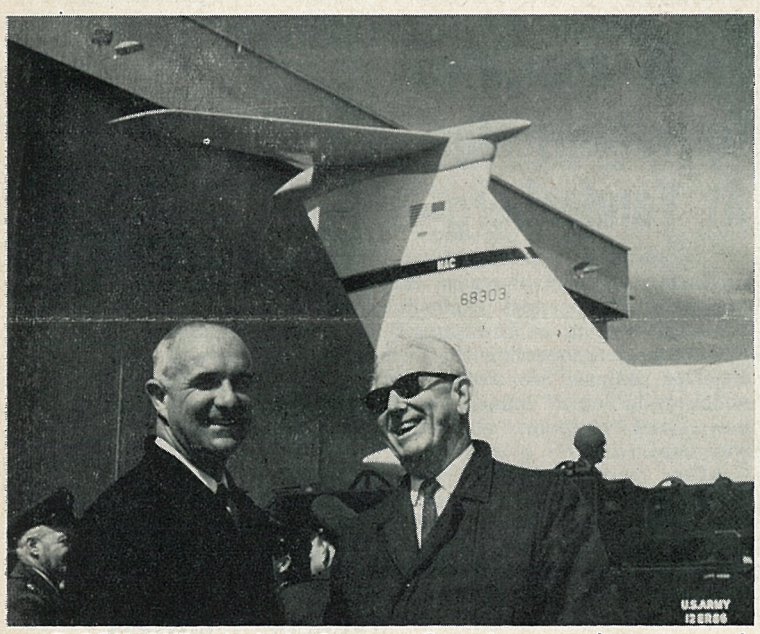
SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

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OUT IN THE OPEN—Giant C-5A dwarfs Lockheed JetStar (foreground) at roll-out at Lockheed-Georgia plant. Convair builds empennage for giant plane, world's biggest.



AT ROLL-OUT—Jack L. Bowers, Convair general manager, is shown at roll-out of C-5 with John P. McCarthy, Lockheed-Georgia Co. director of material.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

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Q — If I am terminated from my present salaried position through reduction in force, and do not choose to revert to a formerly hourly position, would I receive all company contributions to the Savings and Stock Investment Plan?

A — Yes.

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Q — Having to wait until 9:45 a.m. for the library to open is frustrating. Can't it open earlier, when the majority of users begin work?

A — The library hours were changed because of a reduction in overhead budget. Library use was surveyed and it was found that use was minimal in the early hours of the day. So, this time now is used to process orders, maintain files, etc., thus keeping the essential service current.

However, recognizing that some urgently need material before the normal opening, a system has been developed to permit access to material during the "closed" period. Call KM ext. 1073 for details.

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Q — Couldn't we janitors return to our regular hours?

A — Presumably you refer to the 3:30 p.m. starting time that existed at Convair many years ago. The present hours have been

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40,000 Watch C-5 Roll-Out

The first C-5 Galaxy, world's largest plane being built for the Air Force, was rolled out and displayed for the first time early this month in Marietta, Ga.

Convair division builds the empennage for the giant fanjet transport under a $40 million subcontract from Lockheed-Georgia Co., prime contractor for the Air Force.

President Lyndon B. Johnson was principal speaker at ceremonies, attended by about 40,000 persons, and the prototype ship was christened "Galaxy" by Mrs. Harold Brown, wife of the Secretary of the Air Force.

Convair division representatives included Jack L. Bowers, general manager; W. L. Van Horn, director of operations; J. M. Adamson, manager of Lindbergh Field operations; R. W. Miller, C-5 program manager; and D. R. Stewart, chief of contracts, C-5.

"For the first time, our fighting men will be able to travel with their equipment to any spot on the globe where we might be forced to stand," President Johnson told the roll-out ceremony audience.

The President noted that 20 C-5s can transport an entire infantry brigade with all its equipment from Hawaii to Viet Nam.

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Lynch Now Mgr. At Vandenberg

Roger C. Lynch, at 38 a veteran Convair test conductor and former Centaur launch operations manager, has been appointed Convair operations manager at Vandenberg AFB.



Roger Lynch

He succeeds D. L. Fagan, manager of Kearny Mesa operations since March 1.

Lynch joined Convair in 1956 as a test engineer at Sycamore test site and was on the test crew for "hot firing" of the first Atlas, 1A.

He later served as assistant test

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Data Products Expands Into Mission Valley

Stromberg-Carlson Data Products in San Diego next week will move its headquarters from 1895 Hancock St. to 5995 Mission Gorge Rd. in Mission Valley.

Carl V. Shannon, general manager, said 34,000 square feet of office space has been leased in three buildings in Mission Valley —4,000 square feet in the headquarters building and 30,000 in one two-story office building and the lower floor of a second in the new Mission Office Park complex at 6153 Fairmont Extension.

About 100 administrative and marketing personnel will occupy the new quarters initially, expanding to 200 within the next 12 to 15 months.

Key personnel relocating include Shannon; M. C. Camp, director of marketing; J. R. Blattenberger, controller; B. D. Teague, manager of industrial relations; and H. C. Booth, legal counsel.

Use of the new leased facilities will relieve overcrowding and provide additional working space for engineering development, research and tube manufacturing personnel at the Hancock Street building.

Data Products now has 900 employes and expects to expand its work force to about 1,400 by the end of this year. Its annual payroll, now more than $8 million, is expected to be $14 million by the year's end.

Major growth is expected in marketing, manufacturing and administrative departments in the San Diego area and at sales offices throughout the country.

The division increased its work force from 400 to 800 employes last year.

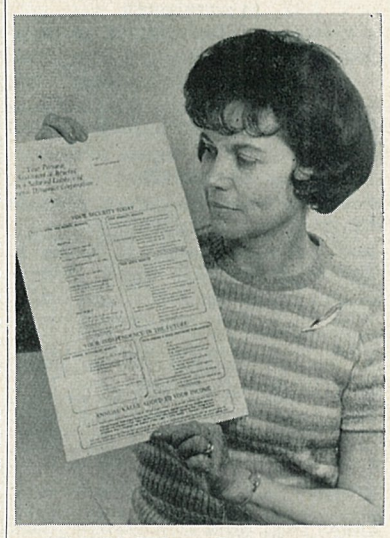
A 43,000-square-foot production and assembly plant was established at 698 W. Main St. in El Cajon and 10,000 square feet of additional space for engineering personnel was secured in a building three blocks from Hancock Street facility. Both of these locations will remain in use.

Shannon said the division ultimately plans to consolidate all its personnel in a new facility to be constructed on a site still to be selected in the San Diego area.

Data Products develops, manufactures and markets cathode ray tube and film-oriented information handling systems that are compatible with computer systems. The microfilm systems translate digital data and record it on microfilm at computer speeds. One versatile unit converts data directly into graphic displays.

Shannon said significant growth of the division can be at-

(Continued on Page 2)



BENEFACTS — Secretary Betty Krohn displays sample copy of Benefacts report to be distributed next month to all salaried employes of Convair, Fort Worth and Pomona divisions.

Mid-April Date For 'Benefacts'

"Benefacts Reports" detailing dollars and cents values of company benefits will be in the mail to salaried employes of Convair division, Pomona and Fort Worth about the middle of April. **(GD/NEWS, March 13, 1968).**

The individual reports include medical, disability, death, retirement and Savings and Stock Investment Plan benefits. Projections are to normal retirement dates.

Reports mailed to Convair personnel will include a message from Jack L. Bowers, division general manager, pointing out that the information is valuable in planning family futures. He advises individuals to read care-

(Continued on Page 4)



NEW QUARTERS—Carl V. Shannon, right, general manager, and Harley C. Booth, legal counsel, are shown discussing building in Mission Valley that will become new headquarters for Stromberg-Carlson Data Products at San Diego.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between March 15 and March 31.

Thirty-year: Dept. 101, J. R. Brown.

Twenty-five-year: Dept. 031, E. S. Budzinski; 400, J. D. Melton; 401, R. H. Davis; 508, B. E. Landgraf; 733, G. T. Adams; 763, D. V. Bailey.

Twenty-year: Dept. 002, R. W. Willig; 057, J. B. Russell; 143, Dorothy G. Sparks; 756, G. N. LaBeau, L. G. Prine; 761, M. L. Breckenbridge; 780, Lillian B. Mixon; 835, Anna R. Lassen; 962, R. S. Hyatt.

Fifteen-year: Dept. 019, K. E. Bennett; 031, L. E. Kopp; 059, C. E. Smith; 141, J. A. Long; 142, L. E. Johnson; 143, A. L. Rader, Violet L. Thomas; 193, O. J. Ohlsson; 250, L. B. Richards, D. C. Taylor; 300, D. C. Lakin; 401, L. W. Smith; 420, Mildred G. Clark; 512, J. Prunty; 518, Lois J. Nemshack; 733, E. Simmons; 780, Dorothy B. Boehmke; 810, V. C. Holt Jr.; 833, R. R. Mendiola; 988, V. L. Bacon.

Ten-year: Dept. 113, Jeanne Y. O'Rourke; 131, J. A. Murguia; 142, S. J. Rose; 200, Elsie E. Speck; 454, C. H. Williams; 518, Dolores M. Doiron; 524, E. M. Lizarraras Jr., Mildred Rankin; 543, A. E. Harris; 533, W. R. Thompson; 572, H. W. Lusk; 731, J. A. Wolf; 780, Marie D. Holley; 964, J. T. Graham; 966, A. F. Leondis; 979, H. I. Ballowe, J. A. Knight, W. B. Sullivan; 985, R. L. Kirby, W. E. Odell.

ELECTRONICS

Twenty-year: Dept. 714, G. E. Boldman.

Ten-year: Dept. 611, J. E. Green.

STROMBERG-CARLSON

Ten-year: Dept. 8511, G. L. Payne; 8560, J. J. Davis; 8610, R. E. Hickok; 8621, L. H. Mayhew.

Awards

Employe Suggestion Awards approved for the week ending March 8:

Dept. 005-0, J. R. Price (two awards); Dept. 015-0, S. Brown, A. Reiter, S. Smolka; Dept. 019-0, D. R. Wilson; Dept. 027-0, E. E. Yturralde (two awards); Dept. 031-0, T. Castro; Dept. 059-4, D. L. Thoulion; Dept. 059-7, V. Dressler; Dept. 059-8, O. H. Fritz; Dept. 130-8, M. B. Peterson; Dept. 141-2, D. A. Menard; Dept. 143-1, J. B. Miller; Dept. 143-6, R. R. Reekers; Dept. 144-1, E. E. Franke, W. G. Lux (two awards); Dept. 144-2, R. F. Luth; Dept. 250-2, J. W. Ratz; Dept. 250-3, V. C. Somers; Dept. 420-6, J. G. Hickey; Dept. 518-0, L. E. Schoonmaker; Dept. 566-1, A. E. Anderson; Dept. 833-2, E. J. Kline, J. E. Rath; Dept. 835-2, W. S. Hill; Dept. 840-1, N. D. Bone; Dept. 953-2, S. D. Losch; Dept. 954-3, D. S. Rumble; Dept. 979-1, K. C. White; Dept. 979-5, M. A. Lima; Dept. 979-6, M. R. Thomason.

Employe Suggestion Awards approved for the week ending March 15:

Dept. 002-0, H. Bender, C. W. Johnson, F. LaRochelle, B. Rogers; Dept. 015-0, J. Hurtubise, B. Yates; Dept. 027-0, M. R. Brown C. F. Hagata, L. F. Pendarvis (four awards); Dept. 143-0, P. H. Milne; Dept. 144-1, J. R. Peugh, H. H. Mishler; Dept. 250-1, G. Brooks; Dept. 400-5, D. B. Tucker; Dept. 400-6, D. M. Williams; Dept. 401-5, R. A. Taylor; Dept. 401-6, J. E. Williams; Dept. 491-0, J. R. Leadaman; Dept. 517-0, C. K. Martin; Dept. 579-1, K. F. Koehl; Dept. 763-0, T. M. Sammon; Dept. 820-0, R. W. Hardy; Dept. 954-5, J. W. Parry; Dept. 984-2, A. M. McCain.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Monday, Apirl 1, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 14 auditorium, Tuesday, April 9, 8 a.m. for first shift; today, March 27, 4:30 p.m. for second shift.

AF Plant 19: ext. 491 LF, Bldg. 3, 1st mezz. Col. B-9 conference room, Thursday, March 28, 8 a.m.

CAL WESTERN

Late registration for Cal Western graduate, day and evening courses, Tuesday, April 2. Brochures and information at educational services. Call David Chigos, ext. 1931 KM.

U. OF CALIF. EXTENSION

Last day for registration Wednesday, April 3.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF-S T U D Y — A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Rider-Driver

CONVAIR

RIDE OR RIDERS WANTED—From Carlton Hills, Santee, to Kearny Mesa, 7 a.m. to 3:45 p.m. shift. Phone C. C. Cope, ext. 3454 KM or (home) 448-2579.

RIDE WANTED—From Lemon Grove (near San Altos school) to Lindbergh Field. 7:00 a.m. to 3:30 p.m. Call James Cooper 465-2874.

RIDE WANTED—From La Jolla (Eads Ave.) to Kearny Mesa. 4:30 p.m. to 1:30 a.m. shift. Call Grace Cline, ext. 1312 LF or (home) 454-0627.

Personals

Your expressions of sympathy and the large basket of coral glads and bird of paradise received following the death of my father, Oliver Roe (retired 1958), were very much appreciated.

Edith Parker

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N. Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Invention Disclosures

CONVAIR

NEWBROUGH—L. H., Dept. 964-4. Fire retardment system.

SCHULAR—A. L., Dept. 952-5. Surface tension start basket.

HERSH—M. S., Dept. 572-2. Method for roll-diffusion bonding continuous ring structures of metal matrix composite material.

YAGER—E. K., Dept. 507-0. Pressure transducer for extreme pressure application.

WHITE—W. K., Dept. 578-3. Freeway traffic safety system.

Deaths

VOSACEK—Leo F., Dept. 027-0. Died March 6. Survived by wife Mary L., son James and daughter Gloria Lopes.

Speech Professor Will Address Club

"How to build a management team" will be discussed by Dr. Arthur Secord, professor of speech and director of community service for Brooklyn College in New York, at a Convair Management Club meeting this evening (March 27) in the El Cortez Hotel.

Social hour is at 5:30 p.m. with dinner at 6:30. The research and engineering department is meeting sponsor.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

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in effect since 1961 and provide maximum working time that does not interfere with normal office hours.

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Q — San Diego employes have the opportunity to purchase numerous items at in-plant tool stores at rates up to 20 per cent off. It is understandable that the private company that offers this service could not support one at ETR, but is it possible to make a catalog available at ETR to permit us to order?

A — Arrangements will be made, effective April 1, for ETR personnel to purchase via catalog through the industrial relations office. Since the supplier is local to San Diego, bear in mind there will be shipping charges.

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Q — The first aid station in Bldg. 33 (KM) is closed on second shift and thus there is no access to aspirin, cold capsules, etc., although there is a need. Would it be possible for supervisors to be supplied with them?

A — Yes. Supervision may, through proper authorization and justification, be furnished medical supplies. See your supervisor.

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Q — In my area (at KM) a whistle attached to a high pressure air system is used to call people to the telephone. The high-pitched blast is annoying and distracting. Is it really necessary?

A — As a result of your question the factory manager surveyed the area. Three whistles were being used. The loudest and most disturbing has been deactivated. Of the other two, the frequency of one is being lowered while the third was not changed because personnel in the area did not find it objectionable. Thank you for calling attention to this situation.

★ ★ ★

Q — I recognize we have had a cutback in the security force, but would it be possible for Gate 6 (between KM Bldgs. 1 and 26) to open during lunch hours? Many sometimes take care of personal business during the lunch hour and for those parked in the west lot it is a long walk.

A — Sorry, no. The security force has been reduced in keeping with the overall work force reduction and needs are carefully surveyed to provide maximum service with the numbers available.

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Q — I understand Convair each year has two invitations for the pro-am of the San Diego Golf Tournament. Presumably one is sponsored by Convair through the Century Club and the other by CRA. Would it be possible to hold a CRA tournament to determine the two golfers to thus represent Convair?

A — Thanks for bringing this up. Management reserves the Century Club invitation to use as appropriate. However, your suggestion has been referred to CRA and initial reaction is favorable regarding some form of selection of a Convair golfer to represent CRA.

40,000 Watch C-5 Roll-Out; President Johnson Present

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It would take 88 present-day jet transports to accomplish such a mission and much of the brigade's heavy equipment still would have to be shipped by sea.

Gen. Howell M. Estes Jr., commander of the Military Airlift Command, said addition of the C-5 to current Air Force inventory will "provide the United States with strategic deployment capability second to none."

Other key officials present for the ceremony included Rep. L. Mendel Rivers, chairman of the House Committee on Armed Services; Harold Brown, Secretary of the Air Force; Robert H. Charles, Assistant Secretary of the Air Force, and General James Ferguson, commander of the Air Force Systems Command.

The C-5 empennage built at Convair's Lindbergh Field plant rises 65 feet. The giant plane's cargo compartment can carry a 265,000-pound payload.

First flight of the C-5 is scheduled in June at Dobbins AFB, Ga.

GD MEN ELECTED BY TOASTMASTERS

Manny Mariscal of Data Products contracts department was installed as new president of North Shores #66 Toastmasters in ceremonies March 23, at the Hanalei Hotel. Norman Takvam of Convair's Dept. 975-0 was installed as educational vice president.



COST HONOR—Jack Cannady, left, manager of finance, scheduling and administration (Dept. 954-0) for Convair launch vehicle programs, and Grant Hansen, vice president-launch vehicle programs, review February cost reduction efforts that resulted in Dept. 954-0 receiving departmental trophy for first time. Dept. 954-0 cost reduction proposals approved during the month will save Convair an estimated $57,000.

Data Products Expands Into Mission Valley

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tributed to national and international acceptance of its systems and to a constantly widening user market.

Markets now include the military services and other governmental organizations and aerospace, publishing, petroleum, transportation and insurance companies and other types of businesses and organizations.

"We are maintaining our leadership in an increasingly competitive field by enhancing our product line with new and even more sophisticated units," Shannon said.

The division last year expanded its line of display and microfilm printing equipment to provide broader coverage of applications and introduced all necessary elements to provide users with complete system coverage.

These elements included direct-view cathode ray tube displays, roll film and microfiche readers and viewers, reader-printer combinations to provide hard copy from film files, a new silver film processor, duplicate supplies in the form of Kalvar heat processed film, and high-speed film-to-hard-copy equipment.

Lynch Appointed Operations Mgr. At Vandenberg

(Continued from Page 1)

conductor during B-series Atlas tests and as test conductor for static testing of D, E and F-series missiles, including the first F-series Atlas "hot firing" in which "silo logic" launch countdown and checkout equipment was used.

After participating in more than 100 Atlas static firings at Sycamore, Lynch was assigned to the Eastern Test Range in 1961 and was test conductor at Complex 12 for the first three Project Ranger launches.

He became manager of Atlas-Centaur launch operations at the Cape in 1962, assisted with build-up of Complex 36B and supervised 11 space and research and development launches, culminating with the successful Atlas-Centaur flight that sent Surveyor 1 to the moon.

Since returning to San Diego in August, 1966, Lynch has held assignments in the Centaur program office, on a hydrofoil boat program later transferred to Quincy division, as manager of the Navy Mark 56 mines program and as a proposal leader on several recent new-business proposals.

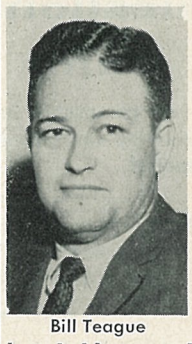
Lynch attended the University of Washington in Seattle and received his engineering degree from the U. S. Merchant Marine Academy, Kings Point, N. Y., in 1954.

He was an engineering officer aboard a destroyer while serving in the Navy as lieutenant (j.g.) from 1954 to 1956. He is married and has four children.

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Teague Transfers To Data Products

Bill Teague has transferred from Stromberg-Carlson, Rochester, to be named director of industrial relations for Data Products at San Diego.



Bill Teague

A native of Texas with a B B A degree from North Texas State (1949), Teague joined the company at Fort Worth in 1950 and since then has held a number of industrial relations posts at different divisions, including the former Astronautics division, and in 1963 joined the industrial relations staff at Corporate Headquarters.

In 1966, he transferred to Stromberg-Carlson, Rochester, as industrial relations manager, off-site locations.

Bowen Succeeds Stutz As President of CRA

Dick Bowen, commissioner of the CRA Adventurers, has been elected president of the Convair Recreation Association Employes' Council. He succeeds Marty Stutz, Square Dance Club commissioner, who had held the presidency for two consecutive years.

Bowen, a facility control analyst in tool control Dept. 400-6 at Lindbergh Field, has been a Convair employe 10 years and previously had served as president and secretary of the Explorers.

Ezra Johnson, Toastmasters' commissioner, was elected vice president. Keith Sears, employe services specialist and Junior Science Club commissioner, was re-elected treasurer and Helen Pemberton of **GD/NEWS** was re-elected secretary.

New officers will be installed at a dinner meeting in April.

Divisions to Pool Talents For DX/DXG Effort

RAdm. Thomas Weschler Describes Challenge

RAdm. Thomas R. Weschler, USN, coordinator for the Navy's DX/DXG Project, is responsible for the accompanying article explaining the program's background and aims. General Dynamics is strongly interested in participating and has established a DX/DXG program office at Quincy division with Samuel O. Perry as director.

DX/DXG is the third major ship system program initiated by the Navy during the last few years that follows the new "Contract Definition/Total Package Procurement" approach. It is unique in that it is a complete system designed for destroyermen.

Assisting Quincy division in the effort will be other GD divisions, including Pomona, Electronics, Convair, Fort Worth and Stromberg-Carlson.

By THOMAS R. WESCHLER
Rear Admiral, USN

In 1962, Fleet Admiral Chester W. Nimitz said:

"Of all the tools the Navy will employ to control the seas in any future war . . . the destroyer will be sure to be there."

These words, although spoken five years before our DX/DXG Program was initiated, summarized quite succinctly why the Program was created and why it is urgent: when we talk of DX/DXG we are talking of destroyers.

Ever since the Revolutionary War when John Paul Jones asked for a fast ship "to go in harm's way," our Navy has recognized the need for swift and capable warships as an important part of our seapower. As the United States moved into the twentieth century this requirement became synonymous with "destroyers"; and since the first USS BAINBRIDGE (DD1) was commissioned in 1902, we have had a large destroyer force in our Navy.

Through the years, the Navy has received long and valuable service from its destroyers. The "four pipe" and "flush deck" destroyers of World War I were still performing effectively during World War II—a span of almost 30 years. Our World War II destroyers continue to perform valiantly today in every ocean.

To help forestall their obsolescence we have modernized many of these ships over the past ten years in our Fleet Rehabilitation and Modernization (FRAM) programs. We have reached the point, however, where further modernization of these ships is either impracticable because of their inadequacies of space and power, or not economically advisable because of high costs involved.

The problem we face in replacing the capability represented by these old ships is enormous. While a one for one replacement is not required or contemplated, the fact that over half of our anti-submarine and gun capability is carried by these 200-odd still-active World War II ships provides an indication of the scope of the problem.

Recognizing the urgency of the situation, in late 1966, the Office of the Secretary of Defense proposed the DX/DXG Program. The approach suggested was bold and imaginative—the most ambitious peacetime program ever conceived for surface warships.

The essence of the proposal was to acquire the needed ships by large scale action using the "Contract Definition/Total Package Procurement" approach. In a departure from previous piecemeal procurement practices, a comprehensive plan was outlined and supported with 30 million dollars for contract definition of the ship types then proposed. It was envisioned that the total package for procuring a large number of ships might—although not necessarily would—go to one contractor to build the ships on a series basis. Details of this procurement aspect of the program have changed slightly with each ship type now being considered as a separate but related program.

A major advantage inherent in the "Contract Definition/Total Package Procurement" approach is seen as the opportunity to supplement Navy expertise with industry ingenuity in warship design. It also provides an opportunity to re-examine the number of different destroyer types needed, to reduce the number of different "classes," and to achieve the economies of multi-ship production and standardization by increasing production per "class." To appreciate the magnitude of change this entails, one need only to mention that thirteen different destroyer-type ship "classes" have been acquired by 51 separate contracts from 12 separate bidders over the past twelve years!

CONCEPT FORMULATION

As a prelude to carrying out the engineering development of the construction of warships, the Department of Defense requires examination of alternatives to accomplish the mission, adequate detailing of essential performance requirements and determination that the contract definition approach is suitable. This process, called "concept formulation," has been accomplished for DX/DXG during the past year under the direction of the Program Coordinator.

Concurrently, by an extensive operational analysis effort, another Navy group determined the missions, types and numbers of escorts needed for the Navy-programmed forces of the mid-1970s and the basic weapons and sensors suits for these escorts on the basis of required effectiveness at least cost in the environment of a world-wide scenario.

As a result of these studies, DX and DXG were found suitable for contract definition and a specific program of numbers and ship types was proposed up the line.

DESTROYER REQUIREMENTS

The studies developed a need for three general ship types for our destroyer family of the future.

First, we need many unsophisticated ships for essentially anti-submarine work aimed at keeping the sea lines of communications free from the underwater threat. These smaller single-screw ships are generally called DE's, or ocean escorts. For the most part these ships are being satisfactorily replaced and updated by the building program now in progress and authorized. No additional DEs are contemplated at this time.

The second-type—one of our prime needs—is the twin-screw, multi-purpose destroyer, and this type we need to procure in significant numbers. Some of these should be configured with guns and others with missiles, but all are destroyers capable of attack carrier escort, differing in accent on capability rather than in basic functions. It is these ships which we mean when we say DX and DXG—the DX being the "gun" version, and the DXG being the "missile" version.

Finally, there is the nuclear-powered, guided missile ship (DXGN), which has all the versatility and capability of the conventional destroyer, coupled with greater staying power so that she can:

1. Take the independent mission.
2. Carry out an assigned task for days without relief.
3. Be rushed from one theater to another for instant action as soon as she arrives on the scene.



COORDINATOR — RAdm. Thomas R. Weschler, whose distinguished Navy career includes destroyer command, is coordinator of DX/DXG (destroyer and missile destroyer) Program.

These ships are the ideal escort for our nuclear and conventionally powered carriers and for independent duty assignments as well. There is an urgent need for these ships as successors to the DLGN 36 class.

DX—THE FIRST CHALLENGE

The Navy, then, has identified a pressing need for new destroyers types—DX, DXG and DXGN. While many considerations are common to two or more, each has its own particular role. We have studied the questions of commonality and standardization extensively and determined that the desired end result can be preserved with industry considering the ships separately. So it is that on 15 Feb. 1968 the Navy presented industry with the Request for Proposal for the DX program. The first step will be Contract Definition for the gun version of the destroyer. This is an exciting challenge to industry and as complex a task as ever faced by any industrial team in the shipbuilding area.

The Navy is allowing unprecedented latitude to the DX contractor in the design of this ship. For example, the contractors will be permitted the opportunity to deviate from thousands of "milspecs" which have been traditionally mandatory in ship programs, as well as from Navy administrative and manning practices. In lieu of the tight requirements previously given, the contractors are required to propose guarantees and warranties to back up their engineering decisions in these areas.

PROGRAM OBJECTIVES

To place the degree of challenge to industry in focus, let us examine what the program objectives are as well as some things which are not program objectives. The prime objective of the program is to make a major breakthrough in procurement and operating costs for warships. Within this broad objective there are several lesser objectives which should be considered. One of these is to gain the fruits of industry ingenuity and input to combatant ship design. In using Contract Definition we are seeking industry's creativity; to justify that search we need good, sound, well-considered ideas and the best management we can get.

The Navy is not interested in "cheap" ships per se. What we want to see are capable, well-integrated ships able to do the required tasks in the most economical way, considering the total life of the ship. We are also interested in ease of moderization so that these ships will remain capable over their lifetime, countering any changed enemy threat as well as incorporating improved potential for their mission. Modularity is a way of achieving this.

Another goal is acceptable effectiveness of the ship as a single integrated system with the application of human engineering in order to achieve reduced manning through automation. Where computers and displays may be needed in order to join systems, it is proposed that standard "building blocks" already in Government inventory be used, such as provided by the Naval Tactical Data System. No specific command and control systems will be specified, since this is a necessary part of the matrix which binds these subsystems into a single functioning entity. By the same token the number and location of control spaces is not specified. This allows full freedom to the contractor to group functions as desirable for performance or operation and to monitor the requirements of modernization and modular replacement.

Considering that the destroyers of today carry nearly 250 tons of electronics with a resultant power requirement approaching 2000KW, the magnitude of the task should not be underestimated. It will require a marshalling of skills and experience in a team which is able to cover most of the spectrum of modern warfare.

At the same time the C/D approach offers the first real opportunity for a single agency outside the Navy to look across the vertical lines which normally break these many subsystems into separate packages. This integration is the key to the destroyer's fighting efficiency and probably the area in which initiative and sound engineering will contribute most to reduced life cycle costs.

Another goal is increased ship availability through careful attention to reliability, better fault isolation and modular repair. In this manner we hope to minimize tender support requirements and permit our ships to be as self-sufficient as possible.

We will get a ship design made by the contractor who will also build the ship, so that it is adapted to his construction methods and facilities for maximum efficiency. Design for ease of subsequent modernization is also required. This procedure and large scale production of identical ships should result in decreased initial investment cost. We want a large class of ships standardized within itself and with as much commonality with the rest of the fleet as is economically justifiable. These are some of our major goals.

Of equal importance are some things which are not goals. No new shipyard or modernized yard is a requirement for this program. Obviously, new facilities could contribute to reduced costs and might be built as a result of individual contractor decisions. Such decisions will remain as separate elective action initiated by a contractor and will not be required by the Government.

The DX/DXG is not a research program. No engineering effort beyond that of engineering development is required or sought. The weapons systems being specified are new and have Fleet readiness dates from today through 1974. The modularity approach will permit ready adaptation to new systems based on changed enemy threat or improved weapons capability. The Government is already investing large sums in designing, testing and approving weapons and sensors to fulfill Fleet needs. A ship procurement program is not the place to incur large additional costs in designing and qualifying new systems.

DX TIMETABLE

The Contract Definition for destroyers (DX) is divided into three phases and will take about 18 months. We are now in the first phase (Phase A), lasting about four and one half months. In this phase qualified bidders prepare fixed-price proposals for Contract Definition. They will be expected to describe fully their understanding of the technical problem and their management set-up for production. These proposals are not expected to contain preliminary designs.

The Navy does want to know how the bidders plan to attack the technical problems which they have identified, and how they plan to manage all aspects of Contract Definition, including engineering, planning, integrated logistics support, and life-cycle cost considerations. This is company effort. Of the offering bidders, two or more will be selected to be awarded Contract Definition contracts.

Phase B, which will start about 1 July and last for about 9 months, is a fully funded period. During this period the Contract Definition contractors will prepare firm proposals for conducting the Development and Production phase. Only one contractor will be selected to develop and produce the ships.

The final phase (Phase C) is also a period of about four and one half months. In this period the Government evaluates contractor proposals and selects the single contractor to perform the remaining development, detail design and production of the ships, including certain items of logistics support.

DXGN AND DXG

It is expected that the DXGN program will move in parallel with the DX to get these ships in the earliest practicable time frame. Exchange of data between these two programs, as well as NAVSHIPS direction and emphasis will help to ensure their commonality. Some form of modified contract definition will be used. The Navy's "in house" capability will provide central management and will handle all facets of the nuclear power plant which will be Government-furnished. The DXG program is expected to follow the DX and DXGN, after those ships go into production.

SUMMARY

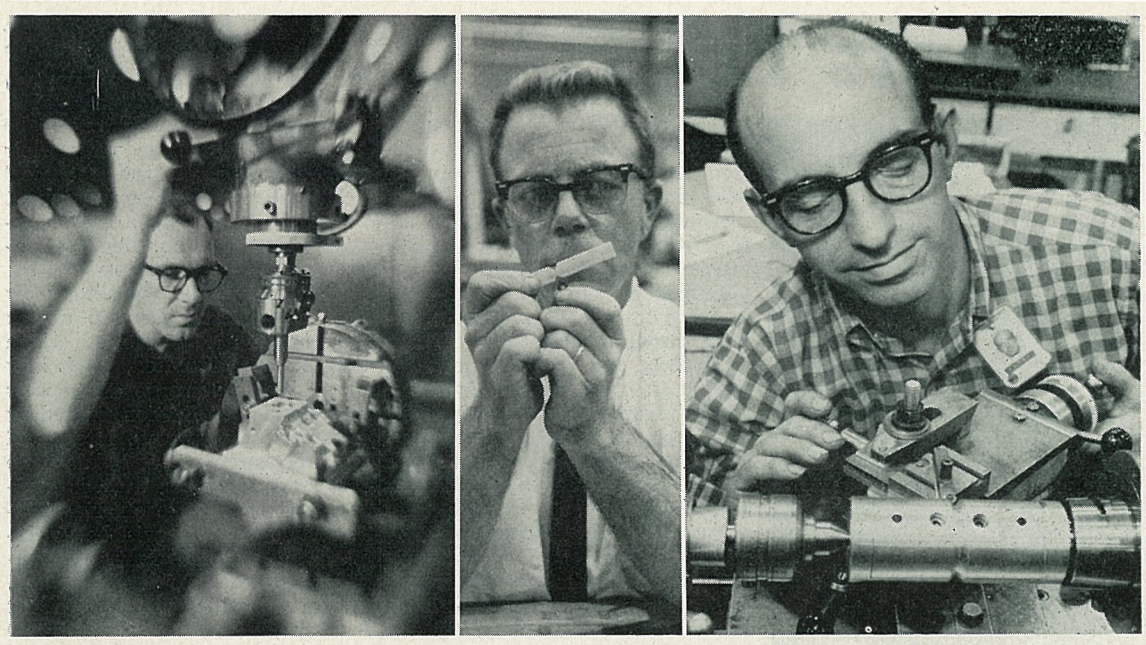
Perhaps the best way to focus the challenge the DX/DXG Program provides to industry is to put it in terms of the people who run these ships—the destroyermen. Writing in 1962, Admiral Arleigh Burke had this to say about the men who man our destroyers:

"Throughout the years destroyermen have been a proud breed. They have achieved distinction and the respect of their fellow sailors through their performance and their ability to do anything asked of them. No task has been too difficult for them to tackle. They have plunged into each new requirement with . . . zest . . . Through a combination of . . .advocacy, enthusiasm, hard work, and ability, destroyermen have carried on the traditions of seafaring men that has been a characteristic of Americans since the inception of this great nation . . . .

"But this is the way the destroyerman must take. New innovations must be tried. New weapons tested. New procedures checked out. And as in the past destroyermen are the ones to do the testing. This takes stamina, devotion, and above all, the integrity of an individual who will do his very best to see that the security of this beloved country is perpetuated. Destroyermen have established enviable records of achievement and they are still steaming toward unknown horizons where developments of the future wait for discovery."

What we are asking industry to do is to join with the Navy in providing destroyers for these destroyermen — destroyers which will continue the proud tradition for years to come. We know we are challenging industry to the peak of its current capability, and industry has given us strong indications that the challenge is welcome. We know that when the going is rough, the call goes out to "send the destroyers."

We want to be ready to answer that call.



DIAMOND BORING—Diamond-tipped tools are used at Convair for precision cutting of hard metals and other materials. In left photo, Byron E. Berry of Dept. 756-0 performs critical boring operation on Centaur power back body. At right, Alan Martin, Dept. 756-0, cuts V-shape notches in composite materials specimens. Universal-type diamond tip and notch in specimen are shown by Earl Christian, Dept. 491-0, manufacturing development engineer, in center photo.

Diamond-Tipped Tools Solve Aluminum-Boron Problem

Diamonds may be a girl's best friend—but at Convair division's Kearny Mesa factory the industrial variety have proven to be real "life savers."

In fact, diamond-tipped tools have been found to be the only practical solution for machining test specimens of tough new aluminum-boron composite materials.

The same universal-type diamond tools also are being used for precision finish-boring of Centaur hydraulic power pack valve bodies where tolerances must be kept to within .0001-inch and for precision "filing" of 45-degree angles in tough and abrasive glass-cloth epoxy-resin-laminate material for electronic printed-circuit boards.

Use of the small diamond-tipped tools has been instituted through joint efforts of manufacturing development Dept. 491-0 and engineering test support Dept. 756-0 because traditionally used high-speed steel and carbide-tipped tools were inadequate.

Earl Christian, a manufacturing development engineer in Dept. 491-0, said cutting edges of the carbide-tipped and steel tools wore down quickly and cutting radius requirements could not be met when attempts were made to cut V-shaped notches in tensile-test specimens of the new aluminum-boron fiber composites.

Each of the dark-colored industrial diamonds in 3/8-inch holders can be used to cut 60 of the "V" notches before being returned to the supplier for resharpening.

The diamonds cost $36 each and resharpening costs $12. The supplier, Diamond Tool Co. of Hackensack, N. J., uses other industrial diamonds in the resharpening process.

Rough cutting of the composite specimens is accomplished with worn diamonds and finishing with sharp ones for maximum cost effectiveness.

Specimens are clamped inside a two-piece holding fixture on a lathe and rotated at 890 surface-feet per minute as cutting of the notches is accomplished with the diamond set for .002 to .005-inch cutting depth per revolution. The diamond produces a perfect .002-inch radius in the bottom of the "V" notches as required for the test specimens.

Christian said forged aluminum from which the valve body for the Centaur power pack is made was impossible to machine with conventional tools and still maintain an ultra-smooth mirror-like surface. The aluminum shavings would stick to the cutting tool, producing grooves in the finish.

"Now, with the diamond tipped tools, the boring procedure has become almost a routine operation with all tolerance and surface finish requirements being met," he said.

Use of diamond tools as a possible solution to problems in difficult metal machining operations at Convair was researched by Christian and C. E. Roye, assistant supervisor in Dept. 491-0. After a series of tests, use of diamond tools was instituted in Dept. 756-0 under the direction of Robert Franklin, general foreman, and P. R. Lewellen Jr., supervisor.

The special diamond - tipped tools are used by Alan Martin and Byron Berry, both instrumentation machinists in Dept. 756-0, and others are to be trained in their use as time permits.

Salvage Schedule

Next employes sales day at the Convair salvage yard, Lindbergh Field plant, will be Saturday, March 30. Open hours are from 8 a.m. until noon. Identification is by ID card.

Mid-April Date For 'Benefacts'

(Continued from Page 1)

fully and retain in a safe place.

"Our benefit programs have been carefully designed, developed, and improved over the years to provide you and your family with protection against financial loss due to illness or injury today, and with security in the future after retirement," he states.

"As your salary and length of service increase, so will many of your benefits . . . If you save this statement for comparison with future reports, you will be able to see your benefits grow, year by year."

The division executive pointed out that many of the benefits shown in the Benefacts Report can be valued in dollars or measured by the cost to provide them —but that other less tangible benefits are equally valuable, although not measurable in dollars.

"These include opportunities for educational assistance, job promotion and the security of knowing that you and your family are protected," the message stated.

LINDEM SPEAKS AT VE SEMINAR

Everett A. Lindem, an education specialist in Convair's Dept. 130-3, was guest speaker March 11 at a value engineering seminar for employes of the Naval Air Rework Facility at the North Island Naval Air Station. His presentation was on "creative thinking."

Convair Employes Exempt In Easter Seal Campaign

Convair employes are relieved from any obligation to contribute to the Easter Seal drive by virtue of a $5,000 donation to the fund by the Employes' Con-Trib-Club.

Con-Trib-Club committee members in February and March meetings also approved grants totaling $24,860 for nine community service, health and youth organizations in California and Florida.

Included was $10,210 for the San Diego County Heart Association for equipment and its heart patient program; $7,500 for the United Fund of Brevard County at request of the Florida employes' advisory committee.

Also $500 for the Pathfinders of San Diego for general operating expense; $500 for the San Diego Juvenile Protection Committe toward printing costs for a "Laws for Youth" booklet; $500 to the National Foundation on recommendation of the Vandenberg AFB employes' advisory committee; an amount not to exceed $350 for San Diego University Hospital for repair of TV sets; $200 for the Tuberculosis and Health Association of San Diego County for repair of TV sets in the tuberculosis ward of University Hospital; and $100 for the San Diego Urban League toward costs of a guest speaker for its annual meeting.

Easter Dance Slated April 13

Convair Management Club has scheduled its annual Easter spring dance April 13 from 9 p.m. to 1 a.m. at the Hilton Inn.

Buster Carlson's Orchestra will provide music from the "big band era" for dancing. Dress will be semi-formal, corsages will be presented to each of the ladies, and "dips and chips" will be served at decorated tables.

Tickets for 400 couples will be sold at $3 per couple on a first come-first served basis by Management Club boosters beginning tomorrow (March 28). Cocktails will be served on a non-host basis.

Tables must be reserved by phoning Barbara Carlin, ext. 731 KM.

Industrial relations is sponsoring department. S. R. Sharp is dance chairman with D. D. Dimmitt in charge of arrangements; Norval Freeman, tickets, and Emory Thurston, publicity.

'Communications' Topic For ASQC Meeting

Donald D. White, senior consultant for Van de Water Associates Inc. of Los Angeles, will speak on "Communications and meaning for quality performance" at a meeting of the San Diego section of the American Society for Quality Control at 6:30 p.m., April 8, in the Bronze Room, La Mesa.

He will discuss quality control under accelerating rates of technological change and means of communication for control of human error to required tolerances.

Convair division is host. L. I. Medlock, Convair director of reliability control, will moderate.

Tickets are available from ASQC boosters: G. A. Gibbons, Lindbergh Field; G. H. Townsend, Air Force Plant 19; R. C. Mansell, Electronics-SD, and R. E. Lowe, R. N. Dunkel, Fred Lay, C. L. Marks, G. L. Williams, W. L. Burkhalter and C. Jones, Kearny Mesa.

Phone Numbers At KM Change

Employes at Convair's Kearny Mesa plant with 700 and 800-series telephone extension numbers will have new numbers in effect when they report for work next Monday (April 1).

All 700 numbers will have been switched to 3700 series and 800 numbers to 3800 series during the weekend. The last two digits of the current extension number will still be used.

D. B. Zink, supervisor of office services, said the change is being made to clear lines for implementation of a new Corporate-wide direct dialing system in July.

Installation of new extension number plates in the center of the dials on phones affected is now under way and will be completed as soon as possible.

Zink said holders of all phones that will have number changes also are being notified by switchboard operators.

Toastmasters Clubs Seeking Members

Applications are being accepted from both novice and experienced speakers for membership in two Toastmasters clubs.

Interested men have been invited to attend meetings of Convair Toastmasters #3745 at 4:30 p.m., Wednesdays or Dynamic Toastmasters #457 at 5:15 p.m., Thursdays in CRA Clubhouse.

Additional information can be obtained by calling Ezra L. Johnson, CRA commissioner, ext. 3388 KM, or the CRA Clubhouse, ext. 1111 KM.

Disneyland Night An Early Sell-Out

All tickets for the Convair Management Club-sponsored General Dynamics' family fun night at Disneyland this Saturday (March 30) had been sold by mid-week last week, Don Evanson, chairman, reported.

Families with round-trip bus transportation tickets will board buses at 5:15 p.m. at the main entrance to the Kearny Mesa plant. Gates to Disneyland will open for the five-hour party at 8 p.m.

Petrucellis Team Wins CRA Bridge

Mr. and Mrs. Leonard Petrucelli won the CRA Bridge Club tournament March 8 and Mr. and Mrs. Robert Rustad won the first game in the spring series March 15.

Six games remain in the spring series. Bridge players are invited to participate at 7:30 p.m., Fridays in the CRA Clubhouse.

You can buy U. S. Savings Bonds regularly for as little as 50 cents a week.

Two Escape Injury at Convair Due to Safety Shoes, Glasses

Two Convair division employes have become members of the national Wise Owl and Golden Shoe clubs in recognition of their having been saved from injury through use of safety glasses and safety shoes.

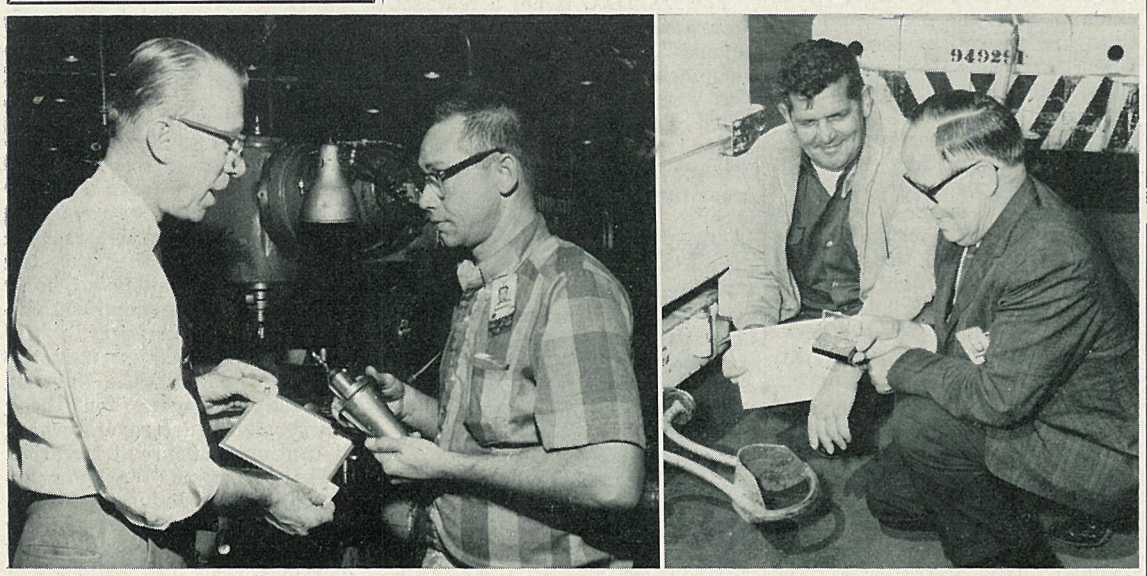
Howard H. Dickey, a Dept. 731-0 milling machinist at Kearny Mesa, is the sixth division employe to become a Wise Owl member. He was cutting a slot in a metal part with a 3/8-inch end mill cutter when the cutter grabbed and broke off, striking his safety glasses. He suffered no eye injury.

Glen Dunlavey, a Dept. 840-3 salvage handler, is the eighth Convair man to become a member of the Golden Shoe Club.

He lost his balance while pulling trash tubs together in front of Bldg. 3 (KM) and the toe of one of his safety shoes was caught between the tongue of one of the tubs and the hitch of another.

The leather was cut through to the steel safety plate in the shoe, but possible serious injury to the toes was prevented.

J. P. Hopman, Convair chief safety engineer, said use of proper safety equipment, including safety glasses and shoes, is "good common sense." "Unfortunately, like a seat belt in an auto—if they are not used they are useless."



SAFETY RECOGNITION—Certificates and pins have been presented to Convair's newest members of national Wise Owl and Golden Shoe clubs. In left photo, Wise Owl awards are presented to Howard H. Dickey, right, Dept. 731 milling machinist, by Jack Kline, supervisor. In right photo, Golden Shoe award presentation is made to Glen Dunlavey, Dept. 840-3, salvage handler, by Roy Eastberg, supervisor.



HOOP CHAMPS—Plant basketball league championship teams received trophies at awards banquet March 8. Gyros (top photo), who won slow-break league title in play-off game, are, left to right, Jim Held (captain), Bob Bachman, Richard Bjelland, Jim Shores, Paul Gastauer, Tony Iaria, Bill Haire, and Tom Reid. Cliff Detty and Bob Johnson were not present for photo. Underbrush team (lower photo), which took fast-break league championship with both first and second half wins, included (top row from left) Ron Eckberg (captain), Paul Crandell, Terry Dougherty, Pete Mihelich, Nord Hjerleid and (front row from left) W. R. Pitts, Jack Mierzwa, Gordon Thiede and Ron Lohrbach. P. M. Hanna was not present for photo.

Gem and Mineral Show Scheduled April 6-7

CRA Rockhounds will have their lapidary artistry on display April 6 and 7 at their annual gem and mineral show in the CRA Clubhouse auditorium at Kearny Mesa.

Hundreds of General Dynamics employes, family members and friends are expected to visit the free show, which will be open from 10 a.m. to 10 p.m., April 6, and 10 a.m. to 6 p.m., April 7.

Several well known gem and mineral collections will be guest displays and members will be exhibiting lapidary work, jewelry, minerals, crystals, fluorescent material, petrified wood, desert glass and novelties.

Carving of jade will be demonstrated by June Hurst, polishing of Australian opal by Ann Manor and faceting of brilliant cut stones by Earl Manor in working exhibits.

A "swap table" will be open from 12 to 6 p.m. Saturday and 12 to 4 p.m. Sunday with star garnet, faceting materials, slabs and cutting materials being available.

About 100 valuable door prizes will be given away in drawings each hour, including a pin with a 15-carat aquamarine stone faceted by Ann Manor. All visitors to the show can register for a grand prize drawing in which a large barbecue set will be given.

Pre-show exhibits are on display this week at Kearny Mesa and Lindbergh Field cafeterias and 1,000 announcement cards, each with a small polished stone attached, are being distributed in plant lobbies.

Jim Sugg is show chairman. Plans for the show have been made by a committee that included Bette Clancy (club president), Gerald Halterman, Roy Wolverton, Glen Perkins, John Clancy, Morgan Jones, Ralph and Helen Steel, and Fred Baugh and Danny Whorton (commissioners).

Club members and guests also have scheduled a field trip to the Himalaya Mine near Pala, world's leading producer of tourmaline, on April 7. Ernie Twiss, owner of the mine, will serve as escort and the group will leave the clubhouse in a caravan at 8:30 a.m. for the trip.

Fishermen Planning Salton Sea Trip

CRA Fishing Club anglers have scheduled a weekend of fishing at the Salton Sea on April 6 and 7. Meeting place will be at the community center campground about ½-mile north of Salton City Marina.

There will be a special contest for largest fish caught and entries can be weighed in at the camp or at the marina's bait and tackle shop.

A fish fry and potluck dinner will be held at 4 p.m. April 6. Members have been asked to bring camp stoves and lanterns. Cooking oil, frying pans, flour, cornmeal, coffee, etc., will be furnished by the club.

Members who can share boat space for fishing or those needing space may contact Earl McDaniel, ext. 1067 LF, Philip Poche, ext. 1981 LF, or John George, ext. 696 LF.



SHOW PLANNING—Bette Clancy, CRA Rockhounds president, and Jim Sugg, show chairman, examine quartz and rhyolite mineral specimen as final plans are made for club's annual gem and mineral show April 6 and 7 at CRA Clubhouse auditorium. Admission is free and the show will be open to the public.

'Package' Vegas Trip Offered

A CRA-sponsored "weekend in Las Vegas" trip has been scheduled for April 26-28.

The entertainment "package" will include a room at the Thunderbird Hotel, choice of two club breakfasts or continental buffet lunches, a midnight show in the Thunderbird Theatre with cocktails, a "bonus package" that includes "lucky" coins, the round-trip fare in an air-conditioned bus and tax and gratuities.

Cost is $26.50 each for double room occupancy and $46.50 for singles. Reservations can be made by calling employe services offices or the CRA Clubhouse, ext. 1111.

The bus will leave the Clubhouse at 5:30 p.m., April 26 and return the evening of April 28.

Briefing in Hawaii Tours Scheduled

A presentation on 17-day Hawaii tours available through CRA will be held at 7:30 p.m., Friday (March 29) in the CRA Clubhouse auditorium.

The escorted tours, costing $338 and $368, leave Los Angeles every other Friday. Flight to Honolulu is by DC-8 "party jet."

Both tour packages cover visits to Hawaii, Oahu and Maui and a sightseeing flight over Molokai. The more expensive tour also includes a visit to Kauai.

Brochures, including application forms, also are available at all employe services outlets and the CRA Clubhouse.

Cyclists Schedule Silver Strand Trip

CRA Bicycle Club members have scheduled a 50-mile Silver Strand-Tijuana ride for 7:30 a.m., April 13.

Riders will meet at Balboa Bowl in Balboa Park, take the ferry to Coronado and pedal down the Silver Strand and along Monument Road and Dairy Mart Road near the border, returning through Chula Vista and National City and along Harbor Drive.

For additional details, phone Cy Campbell, ride leader, 466-1881.

Grooming, Etiquette Course For Women Slated by CRA

Convair Recreation Association will sponsor a six-week course in "Personal effectiveness and business etiquette" for women employes and dependents over 12 years of age, beginning at 5:30 p.m., Friday, April 19, in the CRA Clubhouse.

George Schmiedel, CRA business manager, said the course, normally offered by a La Jolla studio for $75, will be made available to women employes and dependents for $12.50.

The course is designed to improve poise, visual appearance and office manners and will include presentations on makeup techniques, hair styling, grooming, apparel, figure control, voice enunciation, social amenities and office manners.

Size of classes will be limited. Interested persons may enroll by making a $5 deposit at the CRA Clubhouse. For additional information, phone ext. 1111 KM.

Annual QC Seminar Set For March 30

More than 250 quality and reliability personnel are expected to attend the San Diego section of the American Society for Quality Control's seventh annual quality control seminar Saturday (March 30) at Mesa College.

Among 24 seminar speakers will be W. T. Hollar, J. J. Jackson, Sam Braun and C. F. McMenamy of Convair division, Claude E. Wilson of NASA's resident office at Kearny Mesa, and A. E. Hinck of the Defense Contract Administration Services plant representative's office at Kearny Mesa.

P. E. Gelles of Convair's Dept. 144-2 is program chairman. Registration will begin at 8 a.m. and the program at 9. Cost of $5 will include lunch.

GD Families Invited To See Rose Show

Roses by the dozen—in 78 different classes and all colors of the rainbow—will be on display and competing for honors in the CRA Garden Club's annual Spring Rose Show on April 7, in the Floral Association building in Balboa Park.

The show will be open to the public from 1 to 6 p.m. and all General Dynamics families have been invited.

Entries in 59 classes in the roses division will be divided into hybrid tea and grandiflora (grown disbudded), grandiflora (more than one to a stem) and floribunda sections.

Other divisions will be for arrangements, corsages, children's classes, and best of show.

Linkswomen Elect Freda Magargal

Freda Magargal was elected president of the General Dynamics Women's Golf March 9 at Singing Hills CC. Other new officers are Doris Parker, vice president; Dorothy Johnston, secretary; Betty Jackson, treasurer.

Twenty-seven women golfers attended the meeting and buffet luncheon. The tournament was cancelled because of rain. Betty Jackson was awarded a "hole-in-one" trophy.

All women employes and dependents have been invited to play in the club's next tournament April 20 at Cottonwood CC. For information phone Freda Magargal, ext. 2933 KM, or Doris Parker, ext. 583 LF.

Schneider, Walker Place in Shooting

Roland Schneider and Warren Walker took first and second place honors, respectively, in CRA Pistol Club master's class .22-calibre competition March 10 on the San Diego Police course. Dick Sutton and Ralph Picard finished first and second in the expert class.

Top scores the same day in firing on the .45-calibre short national course were Walker, Jim Halfacre, Schneider and A. E. Kampmann.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is April 2. Call ext. 1071 LF or 3322 KM.)

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BADMINTON — Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park. Al Norman, ext. 1371 LF.

BICYCLE CLUB—50-mile Silver Strand-Tijuana ride, April 13. Leave Balboa Park Bowl, 7:30 a.m.

BONAIR FLYERS—Meeting April 2, 7:30 p.m., CRA Clubhouse.

BOWLING—CRA plant championships April 20-21, 27-28, Pacific Rec. Entry forms available from employe services outlets. Blue Chip Stamp Night March 30, Pacific Rec., 6:30-9 p.m.

CAMERA CLUB—Meeting April 3, 8 p.m., CRA Clubhouse.

CERAMICS — Meetings Tuesdays and Thursdays, 7-10 p.m., CRA Clubhouse.

CHESS—Play Wednesdays, 7:30 p.m., CRA Clubhouse.

CHORUS—Rehearsals 7:30 p.m., Mondays, CRA Clubhouse. Phone Jim Pate, ext. 1730 KM; Jo Ann Bray, ext. 1091 LF; Walt Minor, ext. 1111 KM after 4:30 p.m.

COINEERS—Meeting April 17, 7:30 p.m., Lindbergh Field cafeteria.

DELTA DIVERS—Meeting April 10, 7:30 p.m., CRA Clubhouse.

FENCING—Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FISHING—Meeting third Tuesday each month at Gillespie Field Clubhouse. Potluck dinner, 6:30 p.m.; meeting 7:30. Salton Sea trip weekend of April 6-7.

GARDEN CLUB—Annual Spring Rose show April 7, Floral Association building, Balboa Park. Open to the public 1 to 6 p.m.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Mondays through Fridays; 10 a.m. to 5 p.m., Saturdays. Call ext. 1111 KM.

HI-FI/MUSIC—Meeting April 9, 7:30 p.m., CRA Clubhouse.

ICE SKATING—GD family skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

MINIATURE RAILROAD—Work sessions Saturday mornings; meetings at noon first Saturday each month, CRA Missile Park. Al Kent, ext. 3314 KM.

MODEL HO RAILROAD—Work sessions 9 a.m. Saturdays and 7:15 p.m. Tuesdays, CRA Missile Park. Dave Fyffe, ext. 2101 KM.

RADIO CLUB—Meeting April 4, 7:30 p.m., CRA Clubhouse.

RIDING CLUB—Meeting April 10, 7:30 p.m., CRA Clubhouse.

ROCKHOUNDS — Meeting April 10, 7:30 p.m., CRA Clubhouse. Gem Show, April 6-7, CRA Clubhouse auditorium. house auditorium.

SAILING — Instruction classes each month. Meeting fourth Wednesdays, 7:30 p.m., CRA Clubhouse. Call Jerry Toyen, ext. 1685 KM.

SCULPTURE—Workshop sessions Mondays, 7-10 p.m., CRA Clubhouse. Open to all GD employes.

SKI CLUB—Meeting April 2, 8 p.m., Catamaran Hotel.

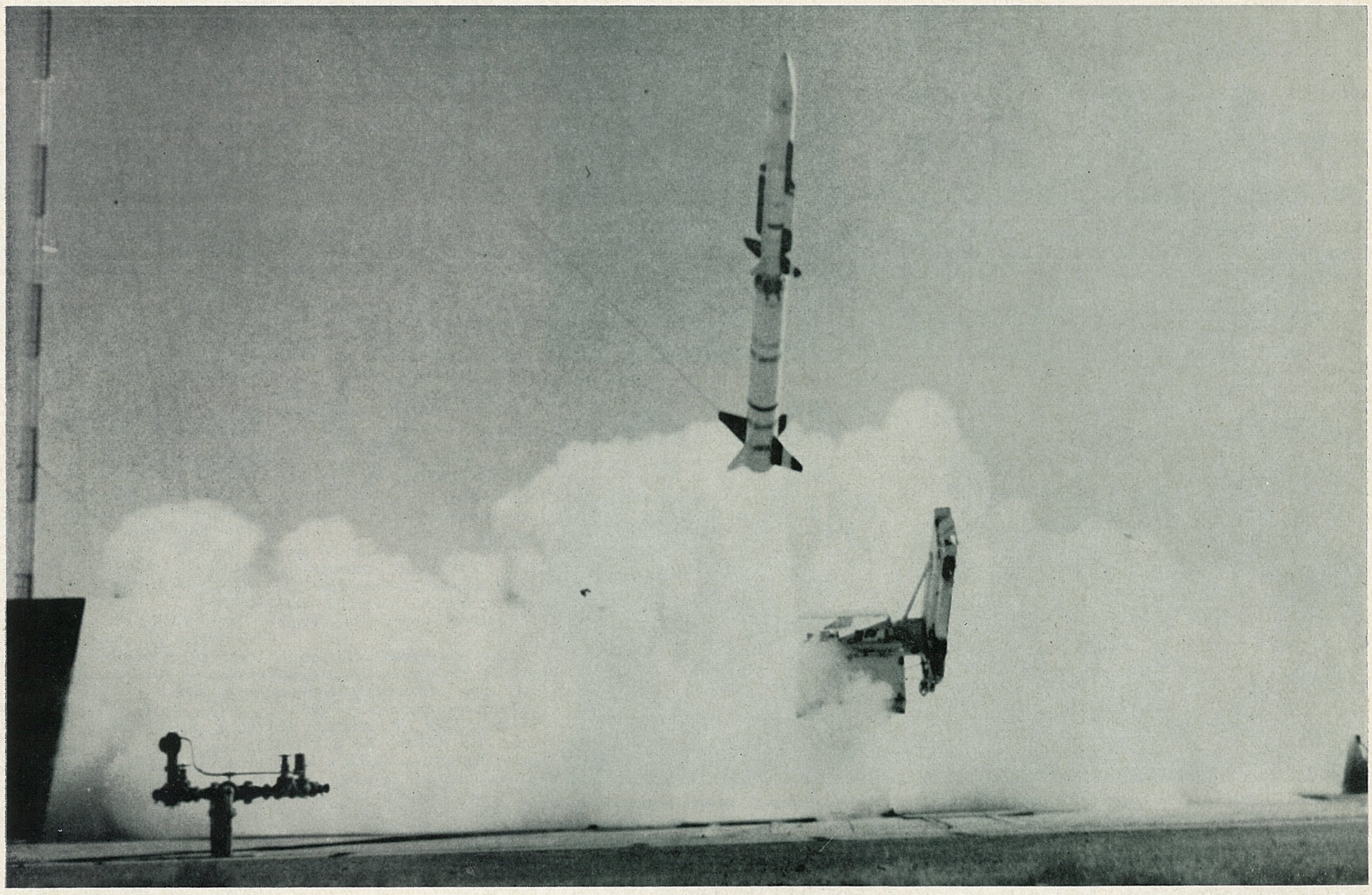
SPORTS CAR CLUB—Meeting April 10, 7:30 p.m., Convair executive dining room, Lindbergh Field.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m., CRA Clubhouse.

TRAILERS—Road Runners meet March 28, 7:30 p.m., Gillespie Field Clubhouse.

TROPICAL FISH—Meeting April 8, 7:30 p.m., CRA Clubhouse.

WOMEN'S GOLF — Tourney April 20 at Cottonwood.



BLAST OFF—Extended range version of Standard Missile leaves launcher in recent test firing at White Sands Missile Range. Standard Missile, built at Pomona division, will gradually replace Terrier and Tartar on U. S. guided missile warships. Total of 74 vessels are equipped with them.

Division Reps Confer at Pomona On Logistics/Product Support

Maj. Gen. W. W. Veal, Commander Sacramento Air Materiel Area, Air Force Logistics Command, was military guest speaker at a General Dynamics Logistics/Product Support Panel Workshop at Pomona March 13 and 14.

Some twenty representatives of various divisions and Corporate Headquarters attended. General Veal was accompanied to Pomona by Col. R. W. Cochran, director of procurement, and Col. F. B. Bevard, F-111 systems support manager, both of Sacramento Air Materiel Command.

The Logistics Product Support Panel was formed last year under the direction of J. Y. McClure, Corporate director of product support and field service, to review all aspects of product support, including spares, customer service, field service, and service engineering for both commercial and military customers.

The panel, with divisional managers of product support as members, is charged with keeping divisions informed on latest Department of Defense requirements and regulations.

McClure, Panel Chairman O. W. Harper of Convair and Vice Chairman R. W. McGuffee of Fort Worth opened the workshop session. H. R. Kennedy, manager of technical publications, Convair, was discussion leader for a session on "Technical Manual Requirements of the Mid 1970s" and H. H. Whiteman, director of product support, Canadair, discussed "Support Management for the Small Sophisticated Air Force."

The opening day program also included the talk by General Veal and a tour of the Pomona division plant.

Sessions on the second day discussed: "F-111 Progress Report on Maintainability and Reliability," "Warranties, Guarantees, Incentives," "Field Service Activities and Personnel," and "Record Type TCTOs." McGuffee and R. E. Sommers, chief of field service and service engineering, Convair, were session leaders.

The next workshop is planned for October in Quincy.

Attending were: L. D. Miller and R. C. Harbert, Quincy; Whiteman, Canadair; McClure, Corporate Headquarters; Kennedy, Sommers, Harper, Fred Kennie, W. T. Elliott and A. H. Gross, Convair; George McAndrew, Electric Boat; E. J. Dowejko, Stromberg-Carlson; Ken Campbell and McGuffee, Fort Worth; A. W. Engbrecht, Electronics; C. L. McCabe, William Gustin, D. M. Hinshaw, J. Q. Friend, A. W. Nigliazzo and M. R. Seldon, Pomona.

Six GD Men Present Papers at Congress

Six General Dynamics representatives, four from Electronics-SD and two from Convair, presented papers at the Fifth Space Congress in Cocoa Beach, Fla., March 11-14.

Electronics-SD personnel and their papers were: Alex Christie, "Design and performance of a multi-layered stripline S-band spacecraft receiver front end"; D. A. Plutchak, "Apollo ships real-time radar data processing"; H. L. Copeland, "Apollo instrumentation complex"; D. A. Harris Jr. and D. A. Williams Jr., "Navigation and tracking of manned submersibles."

Convair representatives and their papers were H. L. Jensen Jr., "A systems engineering approach to instrumentation system design and data acquisition by problems"; and W. F. Chana, "Key to efficiency in space age management."

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

CHARLES A. BENNER (1948) from Convair division to senior field service representative, Pomona division; **JOHN W. HELGESON** (1958) from Convair to project engineer, Electronics, San Diego; **ANTHONY J. FIOCCO** (1963) from Convair to Stromberg-Carlson Data Products as quality control engineer; **D. W. PUTNAM** (1963) from Electronics, San Diego to Quincy; **FRANKLIN H. BURRIS** (1959) from Convair to Pomona as industrial engineer; **JOHN A. CROSSMAN** (1941) from Convair to test engineer, Electronics, San Diego; **WILLIAM R. YOUNGER** (1959) from Convair to Electronics, Dynatronics (Fla.); **EUGENE AGALIDES** (1958) from Electronics, Rochester to staff scientist, Pomona.

Dynamics Employment Goes Over 100,000 Mark

General Dynamics total employment, which went over the 90,000 mark in October, 1966, now has moved past 100,000, according to GD's Annual Report issued this month.

The report further revealed that 71 per cent of all employes eligible, both salaried and hourly, are participating in the Savings and Stock Investment Plan.

"The program to identify and train present and future management personnel for the company, and to improve opportunities for all individuals, is working well," the report stated.

"During the year approximately 22,000 persons received promotions; in line with our policy of utilizing specialized talent within the company at any point where it may be needed, approximately 1,700 interdivisional transfers or temporary duty assignments were made."



SUPPORT PARLEY—Attending General Dynamics Logistics Product Support Panel Workshop at Pomona March 13 and 14 were, standing from left: Fred Kennie, Convair; J. Q. Friend, Pomona; George McAndrew, Electric Boat; R. C. Harbert, Quincy; A. H. Gross and W. T. Elliott, Convair; William Gustin and M. R. Seldon, Pomona; H. H. Whiteman, Canadair; R. E. Sommers, Convair; E. J. Dowejko, Stromberg-Carlson; A. W. Engbrecht, Electronics. Seated, from left: L. D. Miller, Quincy; J. Y. McClure, Corporate Headquarters; O. W. Harper, Convair; R. W. McGuffee, Fort Worth; Howard Kennedy, Convair.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

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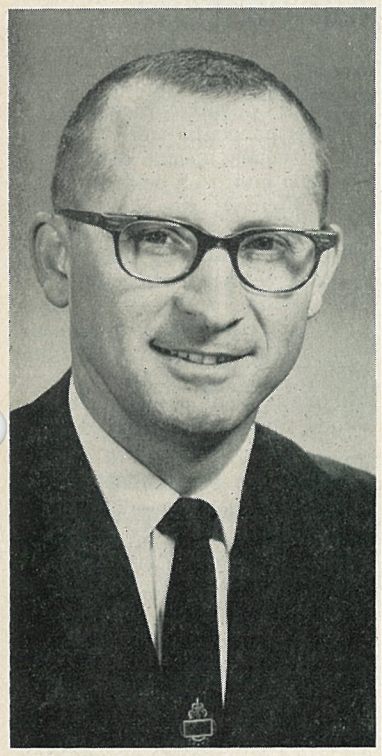


IN VIET NAM—Airfield landing matting, produced at Convair under subcontract for Kaiser Aluminum Chemical Corp., is laid for Air Force airfield in Viet Nam combat zone. Honeycomb core aluminum mats are fabricated on Convair's automated line on two shifts, at about one a minute.

Datagraphics Formed as New GD Subsidiary

General Dynamics has announced establishment of a wholly owned subsidiary, Stromberg Datagraphics, Inc., to expand activity in a growing market for information processing systems that convert computer data into readable form at high speed and low cost.

Previously known as the Data Products division of Stromberg-Carlson Corp., a General Dynam-



IN CHARGE—Carl V. Shannon, former general manager of Data Products at San Diego, is president of new Stromberg Datagraphics subsidiary of General Dynamics.

ics subsidiary, the San Diego-based operation now is itself a separate Corporate entity within General Dynamics' Electronics Group.

General Dynamics President Roger Lewis said that the steady growth of Stromberg-Carlson's telecommunications and data products business made it advantageous to separate the diverse lines so that both will be able to attain their ultimate potential.

Carl V. Shannon, who has managed the San Diego operation since 1965, is president of the new subsidiary.

Shannon, formerly with Motor-

(Continued on Page 2)

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

★ ★ ★

Q — At what stage of development does an invention have to be before presenting it to Convair? To whom does one present an invention?

A — Inventions may be submitted at any phase of development, including simple conceptual sketches. Naturally, working models, blueprints etc. are helpful in evaluating, but not essential. Best procedure is to talk to the Patent Dept. (103-19), obtain Invention Disclosure Forms, and return completed forms with sketches for consideration by the Patent Review Board.

★ ★ ★

Q — Is there any way we can get hot water in the factory washrooms at Lindbergh Field?

A — Your letter sparked an investigation and action will be taken in the near future to provide hot water. Thanks.

★ ★ ★

Q — When will Convair re-roof Bldgs. 5 and 51 at LF? The roofs leak and during the recent rain there was considerable damage on the third floor of Bldg. 5.

A — The water leaks you refer to resulted because re-roofing was in progress at that time. The storm came without warning and there was insufficient time to take even makeshift precautions.

★ ★ ★

Q — Some of us are concerned about theft from the KM plant — materials such as plexiglass, stainless steel, machined parts, drill motors etc. This is serious.

A — Your concern is appreciated and your comment is timely. Security is emphasizing a vigorous anti-theft program this year, including increased scrutiny by gate guards. As you point out, this is a serious matter. Theft is grounds for immediate dismissal and leaves a permanent stigma on the individual's work record.

★ ★ ★

Q — On Jan. 1, 1966, the Social Security tax base was raised from $4,800 to $6,600. At that time employe contributions to retirement were taken out of earnings in excess of $6,600, instead of the former $4,800. This year the SS base was raised to $7,800. Is Convair going to make a similar change in retirement contributions?

A — At this point there is no clear indication from the Internal Revenue Service of its new integration regulations governing acceptable benefit formulas for retirement plans such as ours. We do not plan to change from the present $6,600 until the IRS issues guidelines.

★ ★ ★

Q — Can anything be done to help second shift people who lose money in vending machines?

A — Yes. There are a number of locations where money can be recovered. Find out the location nearest to you by phoning 1300 at KM or 1677 at LF; then when a machine malfunctions you will know where to go. (This information service is available only on day shift, so phone before 4:30 p.m.)

★ ★ ★

Q — The Salaried Retirement Plan provides that if an employe terminates and withdraws his contributions, upon

(Continued on Page 2)

Additional F-111 Work Approved

Convair division has received go-ahead for additional assist work on the F-111 for General Dynamics' Fort Worth division of more than $100 million.

The orders call for production of aft-center fuselage side assemblies, spike assemblies, and cowl assemblies for various versions of the F-111. Over 300 ship sets will be fabricated with initial deliveries to start in early summer of this year. Also included in the assist work is fabrication of inlet panels.

Engineering is complete for the fuselage side assemblies. These consist of three separate duct sections, three major structural bulkheads, fore and aft structural longerons, and cowling sections. Tooling is in work and a production mockup has been built.

Machining of detail parts will start soon at Lindbergh Field and Plant 19.

W. S. Stroud, Convair program manager of F-111 airborne elements, has responsibility for the added work.

Use First Class Mail; It Goes by Air Anyhow

Convair division has adopted a new mail policy that is expected to save thousands of dollars annually by using "first class" rather than "air mail" within the continental U.S.

J. D. Milling, Convair controller, said the division's postage charges last year totaled $118,688, at least 20 per cent of which could have been saved through use of first class rather than air.

Jack Waller, supervisor of general services, which includes division mail service, verified with the U.S. Post Office that almost all first class mail going out of San Diego area now is transported by air rather than rail. Letters going more than 200 miles are virtually assured of air transportation, and surface delivery for shorter distances is usually the same.

The Post Office's "First Class Mail Air Lift Program" is accomplishing a major improvement in national mail service, Waller indicated.

Surveys show that both air mail and first class mail sent the same day from other General Dynamics divisions at distant points arrive at Convair at the same time, Waller stated. The same holds true for mail going from Convair division to other cities.

More than half of the outgoing mail previously processed in the Convair mailrooms was marked for air mail postage.

Company postage-paid business reply air mail envelopes and postcards also are discontinued.

Waller said the best way to ensure "next day delivery" for a letter is to have it properly zip-coded and to get it to the mailroom as early as possible on the day it is mailed.

Zip coded mail is sorted electronically at Los Angeles and other major cities at a rate of 30,000 pieces an hour. Mail without zip code is rejected automatically for later manual processing.

Postal officials prefer that the zip code be the last item in the city and state line of the address, although use of the zip code separately on a line below the city and aligned with the left edge of the address block is acceptable.

(Continued on Page 2)

Con-Trib Approves Grants of $11,050

Grants totaling $11,050 for six health and community service agencies were approved March 21 by the Convair Employes' Con-Trib-Club committee.

The San Diego County chapter of the American Cancer Society was allocated $7,500 and the San Diego County Citizens' Scholarship Foundation $1,500.

At recommendation of the Vandenberg AFB employes' advisory committee, $500 was granted to the Santa Barbara County Heart Association, $500 to the Santa Barbara County chapter of the Arthritis Foundation, $750 to the American Cancer Society and $300 to the Easter Seal Society for Crippled Children and Adults of Santa Barbara County.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between April 1 and April 15.

Thirty-year: Dept. 400, J. H. Villain.

Twenty-five-year: Dept. 002, J. J. Oren; 027, M. H. Button; 045, J. L. Moore, G. L. Sandefur; 195, E. G. Jenkins; 250, V. H. Martin; 507, J. A. Harris; 514, J. C. Sproat; 566, C. F. Gonzales, E. L. Moore.

Twenty-year: Dept. 019, H. W. Jackson; 027, J. A. Pagani; 031, C. B. Burkhardt; 101, Dorothy D. Beard; 149, J. E. Sanders; 420, W. H. Brown; 780, Anna H. Williams.

Fifteen-year: Dept. 015, J. R. Emmons, C. W. Thompson; 031, A. J. Burke Jr., Donald G. Gordon; 059, R. A. Gadow; 149, G. H. Townsend; 400, Marie B. Snellings, J. Stanger; 401, J. C. Ascencio, E. E. Madrid; 519, T. C. Mitchell Jr.; 731, E. A. Ruesterholtz; 756, Fay C. Shaul; 761, E. N. Clifton; 832, Barbara B. LeRoy; 836, R. Horn; 962, R. W. Inscore.

Ten-year: Dept. 149, L. E. Bramwell; 130, H. S. Preston; 195, J. H. Cygan; 250, H. LeFlore; 515, H. L. Johnston; 517, Audrey C. Craig; 531, E. A. Baddams; 574, D. L. Berquist; 581, M. B. Folkert; 731, J. G. Delgadillo; 780, Willadean Ellis, Christine Ledger, Jean E. Neuman; 820, R. P. Lake; 831, V. A. Hoaglund; 833, J. Harlow; 952, W. H. Mitton; 954, Nora R. Funk; 979, C. E. Clyburn, J. L. Dunn, E. P. Norcross, H. E. Tumblin, Ruth H. Willcox; 985, R. N. Schmidt; 986, H. H. Dempster.

STROMBERG-CARLSON

Ten-year: Dept. 8560, C. L. Cox, J. E. Eichberger; 8570, R. J. Bombeno; 8610, M. A. Stuhler.

Awards

CONVAIR

Employe suggestion awards approved for the week ending March 22:

Dept. 001-0, J. H. Hammer, J. W. Weisman; Dept. 002-0, R. Gamboa, C. W. Johnson; Dept. 015-0, A. J. Lewis, D. L. Weelborg; Dept. 015-2, L. S. Boland III; Dept. 016-0, J. W. Rhodes, H. Stephens; Dept. 027-0, D. D. Axsom, P. W. Byrd, G. L. Dickerson, J. T. Hobbs Jr., E. Lee; Dept. 031-0, D. W. Ingram; Dept. 142-1, R. E. Musterait; Dept. 143-6, D. A. Falls; Dept. 149-2, M. F. Greenhalgh, E. M. Kaczka; Dept. 507-0, E. V. Marikle Jr.; Dept. 761-0, P. E. Grasmick; Dept. 962-3, P. H. Kahelin.

Employe suggestion awards approved for the week ending March 29:

Dept. 001-0, C. E. Scott Jr.; Dept. 015-2, O. N. Aleshire; Dept. 016-0, L. L. Wood; Dept. 027-0, J. T. Hobbs Jr., J. Rubalcado (two awards); Dept. 031-0, J. W. Burgreen, B. A. Shourds; Dept. 059-2, C. A. Banks; Dept. 059-5, P. LeDuc; Dept. 101-6, F. I. Millsap; Dept. 144-1, W. G. Lux; Dept. 144-2, S. G. Jenkins, S. C. McFarland; Dept. 451-0, N. B. Coffinbarger, F. White; Dept. 507-0, R. L. Black; Dept. 508-0, R. H. Blumenthal; Dept. 519-0, J. L. Martin; Dept. 521-6, J. J. Letzring; Dept. 567-0, D. B. Offerman; Dept. 761-0, L. L. Ripley (two awards), C. W. Neal; Dept. 763-0, J. K. Bennett, R. L. Brown; Dept. 975-0, J. DeHope.

Invention Disclosures

CONVAIR

McKEOWN — Daniel, Dept. 596-0, crystal oscillator hygrometer.

BARBER—L. H., Dept. 810-0, wrong-way traffic disabling device.

SAVARD — A. J., Dept. 057-2, aircraft exit aural identity.

KETCHUM — W. J., Dept. 952-5, low residual torus tank (bent torus).

NEWBROUGH — L. H., Dept. 964-4, aerial fire fighting system.

Personals

CONVAIR

Former Convair employe Gene G. Dupras, now with the Army in Viet Nam would like to hear from his friends. His address is Sp 4 Gene G. Dupras, RA-56711403, 578 LEM Co. (GS), APO San Francisco, Calif. 96312.

* * *

Your thoughtfulness following the death of our husband and father, Thomas Preston (Dept. 401-5), was most appreciated. Thank you so much!

Mrs. Thomas Preston and family

* * *

Our sincere appreciation for your expressions of sympathy and the kindness and understanding shown at the time of the death of my wife, Theodora P. Weidenfeller.

Will Weidenfeller and family
Dept. 130-3

Deaths

CONVAIR

CHENEY—R. E., Dept. 130-1, died March 26. Survivors include wife, Arlin.

HAWTHORNE — H. J., Dept. 758-0, died March 27. Survivors include wife, Eleanor.

JENKINS — Robert M., Dept. 460-0. Died March 24. Survived by mother and father.

MANNING — Velda P., Dept. 832-2. Died March 17. Survivors include a son, Joe B., two brothers, two sisters and three grandchildren.

MURPHY — Eugene F., Dept. 149-4, killed in auto accident March 25. Survivors include wife, Rosalie.

PRESTON — Thomas, Dept. 401-5 (retired 1961), died March 17. Survivors include wife, Mary E., and a daughter.

STOCKTON — Owen P., Dept. 195-4. Died March 24. Survivors include son Gary O.

General Dynamics News

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Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Papers Presented

CONVAIR

ARMSTRONG — R. C., Dept. 592-0. "Discussion: Technology Report for Manned Planetary Missions." AIAA/Technology for Manned Planetary Missions Meeting, New Orleans, La., March 4-6.

HALL—D. K., Dept. 543-5. "The U.S. Coast Guard Large Navigational Sea Buoy Oceanographic and Meteorological Data Acquisition System." Marine Technology Society's Delaware Valley Section Meeting, Philadelphia, Pa., March 19.

HURLICH—Abe, Dept. 572-0. "Casting Technology for Aerospace Applications." Foundary Educational Foundation's 21st Annual College-Industry Conference, Chicago, Ill., March 28.

MYERS—B. F., Dept. 596-0. "Reaction Times in the Oxidation of Hydrocarbons Behind Incident Shock Waves."

NEYNABER — R. H., Dept. 596-0. "Merging Beams Technique." University of Colorado and National Bureau of Standards/Joint Institute for Laboratory Physics, Boulder, Colo., March 28-29.

OLIVER—George, Dept. 572-4. "Selection of Lubricants." Meeting of the American Society of Lubrication Engineers, Los Angeles, March 13.

ROTHE—E. W., Dept. 596-0. "Glory Extrema in Total Cross Sections for Atom Molecule Collisions." American Physical Society Meeting, Berkeley, Calif., March 18-21.

YOSHIHARA—H., Dept. 570-0. "Current Status of Transonic, Flow Theories." Space Institute/University of Tennessee, Tullahoma, Tenn., March 11.

Papers presented at the AIAA/2nd Flight Test, Simulation, and Support Conference, Los Angeles, March 25-27:

HARDY—W. G., Dept. 598-2. "An Approach to the Definition of Support Systems."

JAEGLY—R. L., Dept. 570-1. "Test Procedure Validation by Computer Simulation."

Papers presented at ASM, ASTME's 1968 Western Metal and Tool Conference and Exposition, Los Angeles, March 11-14:

ADSIT—N. R., Dept. 572-1. "Characterization of Boron-Metal Matrix Composites."

WITZELL—W. E., Dept. 572-1. "Fracture Toughness of Cryogenic Temperature."

Papers presented at the Canaveral Council of Technical Societies' Fifth Space Congress, Cocoa Beach, Fla., March 11-14:

CHANA—W. F., Dept. 580-2. "Mind Organization—Key to Efficiency in Space Age Management."

JENSEN—H. L., Dept. 988-2. "A Systems Engineering Approach to Instrumentation System Data Acquisition Problems."

MARINE TECHNOLOGY CENTER

Papers presented at Joint California Spring Meeting of the Society of Naval Architects and Marine Engineers (SNAME) in San Diego, March 30.

FEAD—Louis. "A Pilot's View of Research Submarines."

KRUTEIN—Manfred G. "Existing and Proposed Ocean Mining Vessels."

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Monday, April 15, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 14 auditorium, Tuesday, April 23, 8 a.m. for first shift; today, April 10, 4:30 p.m. for second shift.

AF Plant 19: ext. 491 LF, Bldg. 3, 1st mezz. Col. B-9 conference room, Thursday, April 11, 8 a.m.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF-STUDY—A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Retirements

CONVAIR

BOYER—Glenn S., Dept. 979-3. Seniority date Aug. 15, 1957, retired Jan. 16.

BUCHANAN—R. B., Dept. 002-0. Seniority date Nov. 11, 1946, retired March 29.

COLE—Daisy V., Dept. 016-0. Seniority date Oct. 20, 1950, retired March 29.

COXETER—Richard T., Dept. 141-5. Seniority date Sept. 19, 1950, retired March 22.

DEL MONTE—George A., Dept. 015-0. Seniority date Aug. 13, 1953, retired March 29.

GOLDMAN — Alice W., Dept. 780-1. Seniority date Feb. 12, 1951, retired March 29.

GRAHAM—Paul G., Dept. 149-2. Seniority date July 10, 1956, retired March 29.

HAGEN—Harry C., Dept. 015-0. Seniority date Oct. 13, 1949, retired March 29.

HAHN — Fred, Dept. 565-1. Seniority date June 6, 1958, retired March 6.

HARRIS—John R., Dept. 401-6. Seniority date July 11, 1940, retired March 29.

HERINGHAUS—Harry B., Dept. 250-1. Seniority date Dec. 20, 1955, retired March 29.

KOEHLER — George F., Dept. 780-4. Seniority date March 28, 1952, retired March 15.

NEED—Earl F., Dept. 250-3. Seniority date Feb. 18, 1942, retired March 29.

NEWTON — Donald H., Dept. 250-5. Seniority date July 6, 1949, retired March 29.

PELTON—Leo C., Dept. 758-0. Seniority date Aug. 24, 1953, retired March 6.

PURDY—Carol H., Dept. 592. Seniority date Oct. 8, 1956, retired March 15.

RAY—Lester E., Dept. 401-6. Seniority date Oct. 31, 1935, retired March 29.

ROBERTS—Guy F., Dept. 031-0. Seniority date Oct. 15, 1946, retired March 22.

SCHOYEN—Dorothy V., Dept. 979-2. Seniority date Jan. 7, 1959, retired Feb. 18.

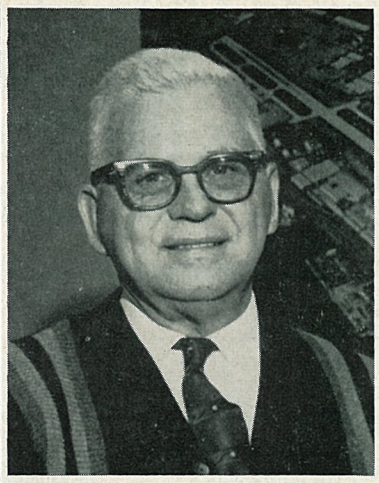
SHAFFER — Willis W., Dept. 130-1. Seniority date Aug. 26, 1953, retired March 7.

Rider-Driver

CONVAIR

RIDE WANTED — Cole Way, North Clairemont, to Kearny Mesa plant, 8 a.m. to 4:45 p.m. shift. Phone Gloria Schiefer, ext. 2455 KM or (home) 273-0501.

RIDE WANTED — 7:00 a.m. to 3:30 p.m. Live on Bandini but will walk to San Diego Ave. or California St. if necessary. Call Frances Matranga, ext. 688 LF.



FOUR DECADES — Leo Niemet's association with Convair stretches back 40 years to March 5, 1928, when he joined Consolidated Aircraft in heat treat. He is in Dept. 002 at Lindbergh Field plant.

Stromberg Datagraphics New General Dynamics Subsidiary

(Continued from Page 1)

ola Inc.'s Western Military Electronics Center in Scottsdale, Ariz., has been with GD since 1960. He holds a BSEE degree from Stanford University and has taken graduate work at Arizona U, UCLA and USC.

In addition to its penetration of the commercial data processing market, Stromberg Datagraphics, Inc. also will continue to put heavy emphasis on military applications of its video display experience to airborne command and control systems.

"The company is leading a new technology that is moving microfilm from its traditional role as an archival storage medium into a dynamic role in the field of management information," Lewis said.

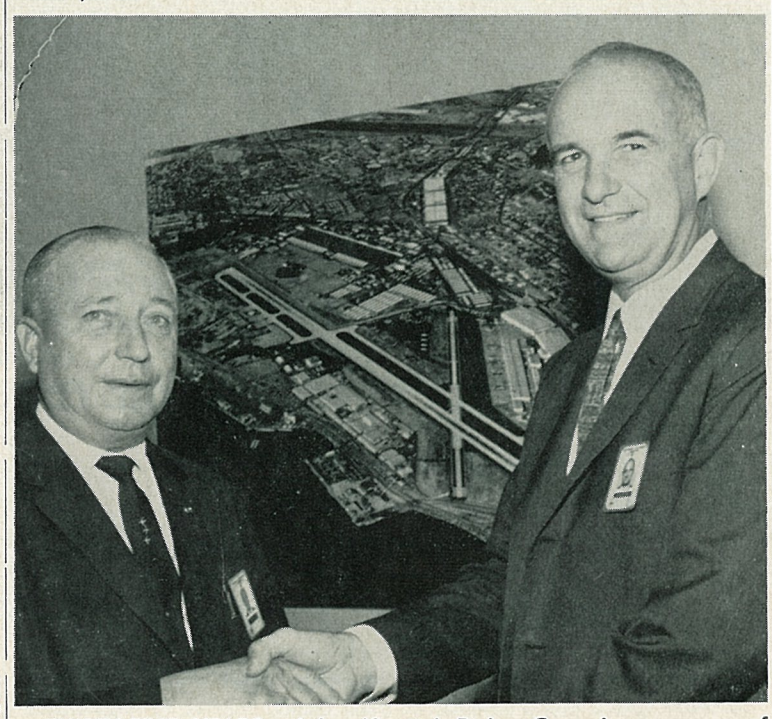
"With a complete line of equipment that is unique to the industry, General Dynamics has demonstrated very substantial savings in time and money for many different business and government data processing applications," he stated.

"We expect important new growth in this field," Lewis stated. "This equipment, sold under the Stromberg-Carlson label, has been well received. Sales are increasing rapidly and new manufacturing space has been acquired."

The heart of Stromberg Datagraphics' commercial product line is a microfilm recorder that converts data directly from a computer or magnetic tape to words, numbers, symbols or drawings and prints it on microfilm at speeds up to 90,000 characters per second. The film can then be presented on a viewer or printed on microfiche as immediately useable information for searching or updating records or making management decisions.

The General Dynamics president said that the establishment of the new subsidiary in the information processing field will allow Stromberg-Carlson to concentrate on its growing telecommunications business. The introduction this year of new "crossbar" central office switching systems, the advent of electronic switching and diversification into specialized communication systems for industry and commerce will assure the maintenance of this strong and profitable growth trend, he said.

Stromberg Datagraphics, with current employment of 900, recently established headquarters at 5995 Mission Gorge Rd., Mission Valley, San Diego. Other facilities are located at 1895 Hancock St., San Diego, and at 698 W. Main, El Cajon.



THIRTY-FIVE YEARS—John (Scotty) Doig, Convair manager of support contracts, receives service emblem for 35 years of service from Jack L. Bowers, division general manager. Doig joined company in Buffalo, N. Y., March, 1933.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Continued from Page 1)

re-hire he can re-establish his previous retirement credit by returning the sum withdrawn. I've tried to repay but have been unsuccessful. Why is this?

A — Convair simply didn't have the proper forms but they are available now at employe services.

★ ★ ★

Q — Regarding group insurance accident coverage, the Group Insurance Certificate-Hourly says one thing about payment above basic benefit, and the booklet Hourly Employes Group Insurance Plan says another. Which is correct?

A — The Hourly Group Insurance Plan booklet is correct. The discrepancy has been noted by the insurance carrier and will be corrected when new certificates are issued.

★ ★ ★

Q — What is company policy on "9 line" telephone use, especially where incoming calls are concerned?

A — Nine line capability is based on need to conduct company business, and this is determined by the department head. Policy dictates that if a line is restricted, it is restricted from both incoming and outgoing usage. For other than business calls, pay phone booths are located at key points.

★ ★ ★

Q — Whatever happened to plans for a CRA-sponsored club for retirees?

A — This was considered and included in a questionnaire sent out to retirees last year. However, at that time retirees appeared to prefer to participate in the regular CRA activities rather than a group of their own. Another questionnaire will be sent out this year and the question will be repeated.

★ ★ ★

Q — First shift autos leaving KM at shift change largely ignore the stop sign by the Recreation Center intersection. Can anything be done about this?

A — Yes. Responding to your question, traffic conditions at all company locations were surveyed and as a first step toward improvement roadway markings are being repainted.

Convair Drops Air Postage

(Continued from Page 1)

The new mail policy was detailed in Convair Notice No. 8-10.

Correspondents were advised not to request special delivery for weekend mail to a business closed until Monday; use the smallest practical envelope, since larger ones may require higher postage; indicate contents of packages if they include only printed materials or educational materials, such as books or films, that may qualify for reduced rates; always add plant mail zone on the envelope or label return address.

Research Engineer On Nominating Bd.

S. R. Carpenter, senior research engineer in Convair process development, is a member of a nine-man nominating committee which is meeting this week in Ohio to choose national officers for the American Society for Metals. The committee will select a vice president, secretary, and three trustees to take office this fall.

Following conclusion of the Society meeting, Carpenter will make stops at both NASA Lewis Research Center in Cleveland and at the Air Force Materials Laboratory, Wright-Patterson AFB Dayton, Ohio, to discuss company-funded material research programs in progress at Convair.

Are You Registered? Only One Day Left

Tomorrow (April 11) is registration deadline for the June 4 primary election. Phone the Registrar of Voters office, 278-9400, for nearest registration location.

Voters in the November, 1966 general election who have not changed their address, political party or name do not need to re-register.

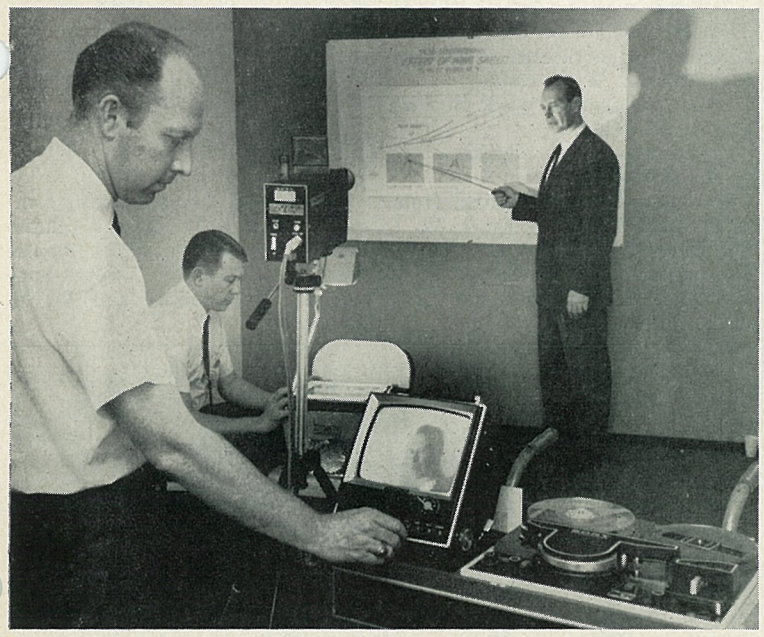
Taped-Audio Presentations Offer Advantages in Time and Distance

How can you make a technical "pitch" to say, Electric Boat and Convair divisions and Corporate Headquarters the same day?

"Someday, it will be simple," claims R. E. Cunningham. Fort Worth division Dept. 65-4 data presentations specialist. "You will simply send a taped-video show to each location."

Experimentally, Cunningham and associates recently used a television/audio recorder to film a technical presentation by R. C. Frost, aerodynamics group engineer.

Result: a "professional" TV presentation which, in the future, might be substituted for a "live" presentation.



ON STAGE—R. C. Frost, Fort Worth division aerodynamics group engineer in Dept. 63-5, makes audio-taped technical presentation. R. E. Cunningham, left, and Gene Brown, both of Dept. 65-4, monitor the operation.

"The taped-video presentation serves several worthwhile purposes," Cunningham said. "The real benefit, right now, is that it gives the presenter a chance to dry-run his talk.

"He can see and hear his performance and change it if necessary. On his first run, for example, Frost discovered that he was 'talking' to the charts rather than his audience. This situation was corrected.

"The dry run also helped him evolve more effective visual aids."

Once taped, the presentation can be reviewed by management and technical people before being released.

"Very often," Cunningham added, "expert opinion on some narrow aspect of a presentation is needed. This, too, could be videotaped, then used or omitted as the situation demanded."

Tapes can be erased and reused, or stored in a data bank.

The engineering department itself averages one major out-of-plant presentation each week.

"Management personnel can't always attend all dry runs," Cunningham said, "but they can review a taped-video presentation and know precisely 'what' is to be said and 'how' it is to be said."

"Video-taped presentations in the future can be more than a presentation aid. Tapes of high quality and professional tone may often prove to be cheaper to send than people, for a number of routine away-from-plant presentations."

Recruiters Trade Ideas In Joint Conference

All General Dynamics divisions/subsidiaries were represented last month when personnel recruitment representatives gathered at the Convair division in San Diego for an "operation recruitment improvement" meeting.

Algie A. Hendrix, General Dynamics vice president, opened the meeting by urging the group to explore new approaches and come up with a program to "insure that our recruitment expenditures are achieving maximum cost effectiveness."

He pointed out that General Dynamics and its divisions are spending more than $1 million a year in recruitment advertising alone.

"You are responsible for controlling this flow of dollars and for doing the bold and imaginative thinking that is needed to spend these dollars most effectively," he said.

Hendrix told the group wise planning of recruitment expenditures requires them to maintain close liaison with the operating people whose needs they serve.

"You must be their right arm in the whole manpower area," he said. "Without this sort of planning, our recruitment dollars inevitably will be spent on a crash basis. And dollars spent on a crash basis can't possibly be cost effective dollars."

Tracy Brooks, manager of personnel placement for General Dynamics and meeting chairman, said the theme for the all-day session was "how to spend smart dimes instead of dumb dollars."

Arnold Deutsch, president of Deutsch and Shea, a New York City agency specializing in recruitment advertising, was keynote speaker.

Deutsch urged consideration of "other possible ways" for effective recruitment — including sponsorship of technical symposia and technical open houses, traveling technical exhibits, employe referral programs and use of motion pictures.

He pointed out that techniques for effective recruiting must vary from traditional consumer product promotion — since recruitment involves not only the prospective employe but his wife and children and all their current ties with the community in which they live.

Each recruitment representative gave a 15 to 20-minute presentation on some of the most effective recruitment practices now being used in his division or subsidiary.

Brooks said the most significant suggestions and ideas will be used as guidelines to serve as a basis for a Corporate-wide "action program."

Brooks said personnel attending the meeting, the first of its kind, were those held directly responsible and accountable for recruitment.

Jet Aircraft Orders Reach $8½ Billion

U. S. aircraft manufacturers had nearly $8.5 billion worth of orders for jet aircraft on Dec. 31, 1967, according to a survey published today by the Aerospace Industries Association.

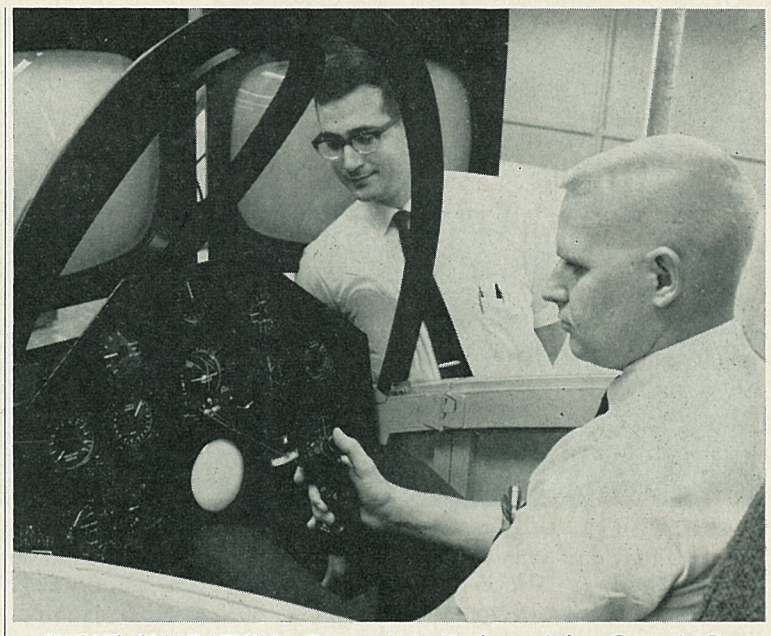
The total was 23.2 per cent above the $6.9 billion of orders on hand on Dec. 31, 1966. The total for 1967 included $8,066 million in jet transports, and $391 million in business jets. Comparable figures for the year previous were $6,604 million in jet transports, $310 million in business jets.

Of the total of orders for jet transports, $2,563 million were for export, compared with $1,859 million the previous year, and $41 million for business jets, further establishing the aircraft industry's substantial contribution to the nation's balance of payments.

Two GD Men Speak At Safety Meeting

Two Fort Worth division employes participated in the recent 29th annual Texas Safety Conference in Dallas.

Frank L. Paschal, administrator health physics, presided at a meeting of the aerospace section. H. W. Loven, senior safety engineer, spoke on "Swing Wing Safety" at a session of the manufacturing section.



FLIGHT SIMULATION—Bernard J. Kuchta, right, Convair Dept. 585-0 design specialist, uses computer-connected simulator for "landing" of variable-geometry spacecraft as George Friedman, dynamics engineer, observes. Simulator is being used in nine-month study for NASA.

Manned Space Vehicle Designs Checked in Simulated Flight

Convair division is conducting a nine-month study of landing and wing deployment characteristics of variable-geometry manned space vehicle configurations under a $30,000 contract from NASA's Langley Research Center.

Bernard J. Kuchta, program manager and a design specialist in Dept. 585-0, said three basic vehicle configurations and different types of wing deployment are being studied.

A cockpit simulator built by the division's experimental department and visual TV "landing field" displays have been tied in with Convair's hybrid analog-digital computer system for simulated "flights" of the various configurations.

Aerodynamic data from wind tunnel tests of models of the three configurations were supplied by NASA for computer programming.

Kuchta said characteristics of lower-level flight in the atmosphere from Mach 2 to landing speed are being simulated to determine handling and landing characteristics and possible problem areas.

George Friedman, Dept. 585-0 dynamics engineer, is assisting.

Wing designs included in the study are designated descriptively as switchblade, single-pivot and folding-wing systems.

Computer operations during the simulated flights are controlled by push buttons on the pilot's "stick" in the cockpit simulator. The computer-controlled visual landing field displays are received on TV monitors from the division's simulation lab.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individual joined the company.)

JACK D. HOLLINGER (1960) from Convair to quality systems control, Fort Worth; **EDWARD B. FLEMING** (1964) from Electric Boat to Quincy as senior facilities engineer; **JOHN W. BARRETT** (1950) from Electronics, San Diego to quality control engineer, Stromberg Datagraphics; **ROY L. BLOUNT** (1961) from Convair to Stromberg Datagraphics as plant engineering supervisor; **HOWARD R. BISSELL** (1949) from Convair to 111 Flight tests, Fort Worth; **WILLIAM T. MEIER** (1956) from Convair to manufacturing control, Fort Worth; **ARTHUR H. MANDALE** (1961) from Convair to Fort Worth in 111 configuration control; **ARTHUR F. BURNS** (1952) from Convair to 111 logistic support, Fort Worth; **CHARLES D. WYCHE** (1955) from Convair to management and technical services, Fort Worth; **LOUIS M. GIBSON** (1936) from Convair to Fort Worth; **VITO M. SARDO** (1956) from Convair to quality control engineer, Electronics, San Diego; **HAROLD G. JOHNSON** (1960) from Convair to engineering writer, Stromberg Datagraphics; **GEORGE G. BAGRIE** (1950) from Convair to Fort Worth; **RAYMOND W. KINCAID** (1951) from Convair to Fort Worth; **FREDRIC M. RHODES** (1956) from Convair to Stromberg Datagraphics as procedures analyst; **DONALD M. WILLIAMS** (1959) from Convair to Canadair; **EDWARD J. COLLIER** (1957) from Convair to Stromberg Datagraphics as manufacturing analyst.



RECRUITMENT REPS.—Participants in General Dynamics recruitment meeting included, left to right, Jaque Ouellet, Canadair; Robert Sutherland, Pomona; Charles Schultz, Convair; Arnold Deutsch, president of Deutsch and Shea; Cliff Puckett, Pomona; M. V. Wisdom, Convair; John Tannone, Convair; Richard Craig, Stromberg-Carlson-Roch.; Fred Whitehouse, Electric Boat; Eugene Fox, Convair; Ray Mendoza, Convair; H. T. Brooks, Corporate manager of personnel placement; Joseph Munro Jr., Corporate personnel coordinator; Algie A. Hendrix, Corporate vice president; Patrick O'Reilly, Electronics-Roch.; Roger Brown, Material Services; Bill Teague, Datagraphics; Milt Myers, Fort Worth; Jay Colvin, Datagraphics; Louis Cecchi, Pomona; Vincent Finley, Electronics-SD; Joseph Ellis, Fort Worth; Carl Goetter, Liquid Carbonic; Bruce Dobler, Quincy; Donald Carlson, Electro Dynamic; and George Leesch, Electronics-SD.



1967'S BEST—Winners of annual safety awards pose with Jack L. Bowers, Convair general manager, center, and John Hopman, chief safety engineer, far right. From left: P. T. Gardner (engineering test facilities), J. F. Haskins (materials and processes), Carl Banke (machine shops, LF and Pl.19), Bowers, Earl Wesp (LF Depts. 401-0, 401-2, 401-9), K. E. Newton, (ETR), Hopman.

Chana and Green Nominated For Presidency of Mgt. Club

Nominees for new officers for Convair Management Club were announced by the nominating committee and ratified by vote of the membership at the March 27 meeting. They are:

President—W. F. Chana and P. R. Green.

First vice president—J. E. Cook and R. V. Woodle.

Second vice president—R. H. Thomas and H. B. Day.

Recording secretary—C. B. Simmons and J. W. Hanning.

Financial secretary—T. S. Wied and J. H. Wills.

Treasurer—F. S. Graham and A. E. Divine.

One-year board of control (four to be elected)—R. A. Ames, W. J. Durflinger, Terry Kell, W. J. Hammond, G. W. Cowan, J. R. Detwiler, R. W. Chambers and S. L. Smith.

Two-year board of control (two to be elected)—Gerry Schmidt, J. A. McSparron, A. J. Braidic and J. Q. A. Wickham.

Three-year board of control (two to be elected)—W. S. Hicks, G. M. Davidson, M. M. Saunders and G. G. Christ.

Ballots will be mailed to members April 22 and must be returned by May 10. Winners will be announced at the May 15 dinner meeting and installed at the June 12 dinner meeting. New officers will assume responsibility for the club year beginning July 1.

Members of the nominating committee were L. I. Medlock (chairman), Eugene Fox, F. D. Applegate, J. C. Cannady, J. M. Adamson, F. D. Robbins and W. E. Magnuson.

Beginning Spanish TV Class to Start

The spring quarter of TV beginning Spanish, taught by Convair's Jim Hardison, is open for registration through this week.

First class of the 10-week course was March 23.

The television series is broadcast over Channel 8 on Saturday mornings at 7 a.m. and replayed Fridays at 6:30 a.m.

The basic conversational approach is used to familiarize students with fundamentals of the language. The course is given for high school credit or as a refresher.

Over 300 persons registered for credit in the class last quarter.

Cost, including textbook, is $2.

Register with Mrs. Pat Byrom, 835-12th Ave., SD, phone 233-0181, ext. 51.

RDT&E FB-111 Tank Task Completed

Last of the initial group of RDT&E, research development technical and engineering, FB-111 fuel tanks being built at Convair under an assist work order from Fort Worth division has been completed. Shipment of the final tank of the first lot was March 22.

Production fuel tanks are in first phases of fabrication and assembly in the production area at Air Force Plant 19. A second test group also is under way simultaneously with production tanks.

Machine Shops Earn Top Honor For Safe Record During 1967

Dept. 015, machine shops at Lindbergh Field and Air Force Plant 19, received Convair's top safety and housekeeping trophy for 1967 at the division's annual safety awards banquet March 28.

Jack L. Bowers, Convair general manager, presented the trophy to Carl Banke, Dept. 015 general foreman.

The annual off-site base safety competition was won by employes at the Eastern Test Range (Dept. 979). K. E. Newton, Convair ETR operations manager, was present to receive the trophy.

Bowers also presented special recognition trophies to three units for having completed the year without a "serious medical case."

Earl H. Wesp accepted for Lindbergh Field Dept. 401-0, 401-2 and 401-9 tool manufacturing and template, plastics and form blocks functions.

P. T. Gardner accepted for engineering test facilities Dept. 578 and J. F. Haskins for materials and processes Dept. 572.

John P. Hopman, Convair chief safety engineer, reported that the division had 172 "serious medical cases" last year — including 13 lost-time accidents.

Investigation disclosed that 67.92 per cent of the "serious medical cases" resulted from employe negligence or inattention, 17.99 per cent from use of improper equipment, 11.70 per cent from violation of safety regulations and 2.39 per cent from use of faulty equipment.

Ninety of the "serious medical cases" were at Lindbergh Field, 58 at Kearny Mesa, 17 at AF Plant 19 and 9 at off-site locations. Twelve of the lost-time accidents occurred in San Diego and one at ETR. The accidents included four finger amputations and loss of an eye.

M. V. Wisdom, director of industrial relations for Convair and master of ceremonies for the banquet, noted that three lost-time accidents have been recorded this year.

"The 1968 division objective of improving our safety program by 10 per cent, and in addition, to have the best safety record in the aerospace industry, is a challenge which will require attention to accident prevention on a continuous basis by all Convair employes," he said.

Grant L. Hansen, vice president-launch vehicle programs, pointed out that safety contest results for the off-site bases had been "very close" and that employes at Vandenberg AFB had completed four years without a lost-time accident.

He complimented Newton and ETR employes on winning and said the Apollo tragedy at Cape Kennedy resulted in increased emphasis on safety both by contractors and customer personnel at ETR and Vandenberg.

Bowers commented on safety achievements of each of the award winning departments and said he would "like to see what you people have done repeated in many other departments."

"Of all the objectives we work toward, safety has the most deep down satisfaction," he said. "It's not just a matter of money but of people and their physical well being."

W. L. Van Horn, Convair director of operations, also spoke briefly, congratulating winners.



CARELESSNESS COSTS—Ramona Joyce, Dept. 143-0 secretary in Kearny Mesa factory, looks over assortment of damaged perishable tools—most of them ruined through improper use. Broken diamond wheel she is holding cost $200 alone. One of Convair division's Conservation Program goals is to reduce costs for perishable tools by $120,000 this year.

General Dynamics Children Earn Science Fair Awards

Fifty-one children of General Dynamics personnel were among 424 junior and senior high school students with exhibits at last month's greater San Diego Science Fair.

And 32 of the General Dynamics youth took home 42 awards.

Tim Sullins took sweepstakes junior group award and first place in the junior chemistry-biochemistry division. John W. Winslow received the second runner-up senior sweepstakes and senior first place ribbon in botany.

James M. Nau was junior first place winner in engineering-electronics and received special awards from the American Society of Mechanical Engineers, American Society of Tool and Manufacturing Engineers and the San Diego Engineering Council.

Andy Sturman received the U.S. Air Force electronics and communications and U.S. Navy science cruiser awards and senior third place ribbon in engineering-electronics.

P. Joseph Feeney received a student advisory group award and special awards from the San Diego County Dental Society and School Nurses of San Diego-Imperial Counties.

Carl Warner won a special award from the American Society of Civil Engineers and placed third in senior earth-space sciences competition.

Other award winners included Barbara Baker, James Ballinger, Richard Brooks, Lori Ann Conover, Robert Keith Conover, Mark Dorian, Randy Dorian, John Eaton, Glen Evans, Mary Jo Faupel, Darleen Fleury, Susan Fleury, Fred Greensite, Candace Hallman, Roland Hill, Kim Hujsak, Tracy Hunter, Michael Iglesias, Pat Kring, Peggy Nishida, Penelope Parsons, Susan Putness, Brad Riney, Neil Sturman, Steve Tweed and J. Kirk Wrench.

Jack L. Bowers, Convair division general manager, was a member of the Science Fair board of governors with J. A. Croft, E. A. Lindem, E. W. Thurston and H. E. Miller serving on the management committee.

Advisory committee members included R. T. Blair Jr. and David K. Chigos of Convair, Col. James Ourand and Capt. Vernon Karlin of the Defense Contract Administration Services plant representative's office and Ronald Rovenger, Rudolph Iglesias and Claude E. Wilson of NASA's Lewis Research Center resident representative's office at Kearny Mesa.

E. W. Carlson of Convair and James W. Crooks of Electronics-SD were on the professional counseling committee.

Convair personnel serving as judges were M. D. Campbell, Jack Grace, Dr. Michael Griggs, James F. Haskins, Dr. Samuel Kaye, Cletus E. Klein, Dr. Jack M. Maughmer, Lloyd E. Munson, Gerald L. O'Barr, John D. Rhamy, Dr. William J. Schart, Edward W. Schwartz, Dr. R. S. Scullen, John W. Steadman, T. T. Tanalski and D. W. Vorbeck.

Research Summary Slated For May 1

Second issue of the Convair Research Summary will be ready for distribution before the first of May, according to L.L. Lowry, Convair manager of IRAD, independent research and development sponsored by the company.

The Research Summary (CRS-2) is a compilation of papers describing the most significant IRAD studies during 1967 and is prepared for wide distribution to government agencies that contract for research and development studies. First such summary was issued and distributed by the division a year ago for studies conducted in 1966.

Salvage Schedule

Next employes sales day at the Convair salvage yard, Lindbergh Field plant, will be Saturday, April 27. Hours are from 8 a.m. until noon. Entrance is by ID card. Children and pets are not allowed inside the yard.

Care of Perishable Tools Given Emphasis in Conservation Drive

Correct use of the proper tool for every job is considered the most important means of helping Convair division achieve its Conservation Program goal of reducing perishable tool costs by $120,000 this year, according to G. A. Grossaint, chief of tool manufacturing, research and development.

Perishable tools are items costing less than $300 and include drills, reamers, files, drill motors, rivet guns, grinding wheels, band saw blades, sanders, mallets, wrenches, etc.

In 1967, more than $1 million was spent by the division for purchase and repair of such tools. Managers have urged personnel to always use correct tools, ask questions if in doubt, and return all damaged tools to tool cribs immediately for resharpening or repair.

A comprehensive color slide and tape-recorded presentation on perishable tools and their cost to the division was completed recently by W. J. Dawsey, a methods engineer in Dept. 202-3. It is being shown to groups of factory supervisors by Marvin O. Ramsey, tool service supervisor, and all new employes by educational services personnel.

In addition to graphically showing the cost of many perishable tools, the presentation stresses the need for prompt return to tool cribs after their use.

Ramsey said the first four showings of the presentation to factory supervisors resulted in thousands of dollars worth of tools being removed from tool boxes or benches and returned for reissue.

Passing of portable hand tools from one shift to the next is being emphasized.

"These tools should be stored in cabinets, not locked in tool boxes," Ramsey said.

"Holding over tools for use on one shift forces tool service to stock each shift with separate tools. Providing separate tools for each shift can be as expensive as providing tools for two factories."

An effort is being made to reduce "versionitis" in purchase and use of various kinds of perishable tools and equipment.

Last year, for example, the division spent $190,000 for 1,500 different configurations of drills, $68,000 for 450 different configurations of grinding wheels and $51,000 for 2,000 different varieties of small hand tools.

"Care in handling of tools also is being stressed. Damage to a carbide tool from dropping it, for example, may result in repair costs of from $10 to $70," Ramsey said.

Budgeted costs for perishable tools was reduced by more than $35,000, or 29 per cent of the 1968 Conservation Program goal, during the first two months this year.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 9 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, April 24, 1968





LAST HALF HONORS—About 600 employes from nine Convair departments attended recent ceremonies at Kearny Mesa and Lindbergh Field in which Jack L. Bowers, general manager, presented Convair Craftsmanship Sustained Performance certificates for performance during last six months of 1967. Photo at left shows KM ceremony with Bowers handing award to Don Anderson for Dept. 780-2. Photo at right, taken at LF, shows Bowers with award winners.

Craftsmanship Awards Earned By Nine Depts.

Nine Convair division departments recently were awarded large framed Convair Craftsmanship Sustained Performance award certificates by Jack L. Bowers, division general manager, for having reduced defects by 20 per cent or more during the last six months of 1967 as compared to 1966 performance.

Approximately 600 employes from the nine departments attended outdoor ceremonies at Kearny Mesa and Lindbergh Field in which the certificates were awarded.

Receiving awards at KM were planning audit Dept. 420, machine shop Dept. 731, Atlas-Centaur final assembly Dept. 761 and electronics research and development Dept. 780-2.

Accepting in behalf of the departments were G. E. Nuss for Dept. 420, J. M. Kline for Dept. 731, Lee Ely for Dept. 761 and Don Anderson for Dept. 780-2.

LF winners were sheet metal Dept. 001, machine shop Dept. 015, graphic reproduction Dept. 518, shipping, staging and traffic Dept. 833-2 and first-cut Dept. 836.

Accepting were Gerry Cox for Dept. 001, Stan Krebs for Dept. 015, Herb Day for Dept. 518, John Ruzich for Dept. 833-2 and G. E. Garrison for Dept. 836.

Bowers commended the winning departments for their outstanding performances and leadership in the Craftsmanship program and said he hopes other departments can "catch up a little bit."

He told employes that a "lot of soul searching" was done before the division goal of increasing quality by another 20 per cent was established for this year but said he is sure this latest objective will be achieved.

Bowers told of a recent visit with Dr. Abe Silverstein, director of NASA's Lewis Research Center in which the perfect record of Convair's Atlas-Centaur vehicles in the Surveyor program had been commended.

He said Air Force and Lockheed officials on several occasions at the C-5 roll-out ceremonies in Marietta, Ga., also had expressed appreciation for Convair having met its C-5 empennage production schedule and for having "delivered a quality product."

Dept. 420 during the six-month period reduced defects to 2.7 per

(Continued on Page 2)

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

Q — What efforts has Convair made to relieve the parking situation at Lindbergh Field? Are there any possibilities of relief? (This sums up the substance of many questions sent to Q and A on the subject.)

A — Convair has explored and is continuing to explore many avenues in an attempt to provide more parking space at LF, but at the moment there certainly is no quick solution. Difficult before, the situation became even more so when the new freeway eliminated considerable space, though Convair acquired from the State Highway Dept. all the space available under the freeway system near the LF plant. On the plus side, however, Convair obtained San Diego Traffic Dept. approval to park on Pacific Highway from Washington to Palm Street. This opened up room for more than 100 cars. The Rider-Driver lot fronting on Kettner was established with space for 400 autos. (Convair will continue to encourage Rider-Driver pools as the work force increases.) This helped, but didn't solve the overall problem.

Meanwhile, all owners of property suitable for parking in the area have been approached in efforts to lease at a reasonable cost, but this so far has been unsuccessful. These efforts to lease (as well as buy) will continue. In early 1967 a parking area at Compass Rose was leased from the Port District with room for 550 cars. This helped for a time, but patronage gradually fell off until it was not worthwhile and the lease was dropped. This space could be reactivated if there is sufficient indication that it would be used. (Call LF ext. 1931 if interested.) Inquiry was made into the possibility of constructing a multi-level parking garage south of the cafeteria, but the cost is prohibitive. Reserve parking, both in and out of plant, is continually monitored by both industrial relations and line management to insure it is justified and utilized to the maximum.

One possible way to partially relieve the situation would be express buses from outlying communities. A survey is under way to determine if there is sufficient demand. (See page one news story.)

★ ★ ★

Q — Is reserve parking at Kearny Mesa being utilized to its fullest?

A — Reserve parking is reviewed periodically with an eye to reducing wherever it is reasonable. However, parking facilities at KM generally are excellent and there is space available near most work stations.

★ ★ ★

Q — I understand that a picnic for retirees is planned this summer. Would it be possible to place on the agenda for discussion some means whereby retirees could contact each other for non-CRA outings of their own, such as golf?

A — Yes. This as well as other matters of interest to retirees will be discussed.

★ ★ ★

Q — How many letters has "Q and A" received so far? How many have been answered, either in *GD/NEWS* or otherwise? How long does it normally take to receive an answer?

A — As of last week, about 350 letters had been received since the program started. Answers have been mailed to about 275. Of

(Continued on Page 4)

F-111 Assembly Work Centered at Plant 19

The bulk of the assembly work involved in the F-111 assist program at Convair is now being consolidated in Bldg. 2 at AF Plant 19.

"We will gain a distinct advantage by centering most of the assembly work in one plant," said H. G. Rote, general foreman of Dept. 027, in charge of all F-111 assembly work at Lindbergh Field and Plant 19.

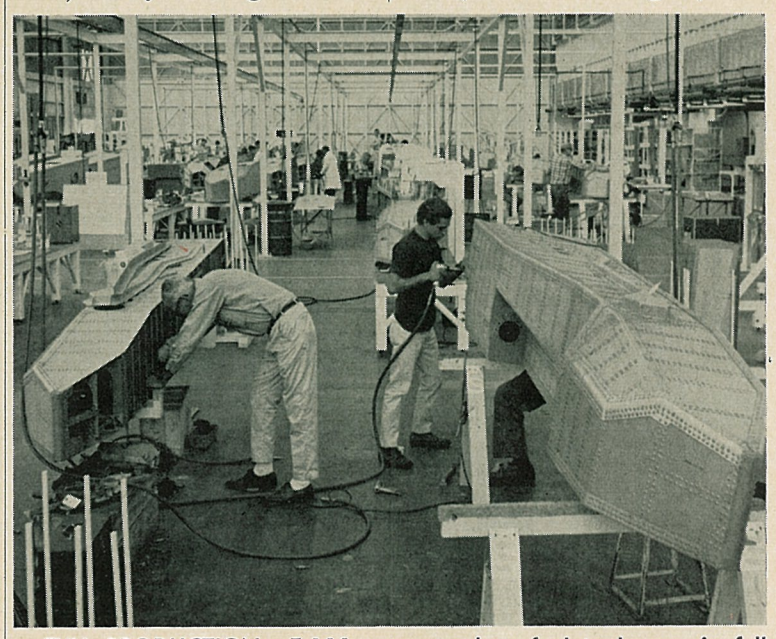
"Mainly we will be able to reduce costs by more efficient utilization of portable and perishable tools, and by reducing the stocking and storage problems," he said.

"This is vital to the F-111 program, because we have to support the production schedule in Fort Worth with the assemblies we produce here. A production slowup could be very detrimental to Fort Worth schedules."

Rote emphasized the cost factors involved.

"We must be sure we are producing these assemblies at the lowest possible cost in order to keep within the targets

(Continued on Page 2)



FULL PRODUCTION—F-111 weapons bay fuel tanks are in full production in AF Plant 19 at San Diego and represent portion of consolidation of F-111 assembly work there. Assemblers are C. W. Tabor (left) and M. W. Seton.

Want Express Service By Bus? Phone ext. 1931

In a move that if successful, could have a good effect on the parking situation at Lindbergh Field plant, industrial relations is attempting to survey LF employes as to how many would patronize express buses if they were made available.

If feasible, buses would link the plant with such outlying points as El Cajon, Clairemont, Imperial Beach, etc. They would pick up employes at bus stops in the community and go directly to the plant in the mornings and return at the end of the working day.

All employes who are interested in such service are asked to telephone LF ext. 1931, report home community, address and hours that would be most convenient.

The San Diego Transit Authority has agreed to supply service if they have enough riders to defray their expense. Fare would be approximately $1 round trip, with the possibility of a reduction if more than the minimum use the service.

Times involved from point to point probably would be comparable with auto travel and perhaps even faster in view of the time involved in parking in the morning and walking to cars at the end of work.



COMMENDATION—Sarah Williamson of Convair's Dept. 130-6 receives certificate of commendation from M. V. Wisdom, left, director of industrial relations, for cost reduction proposal resulting in procedural changes that saved Convair division $69,290 last year. At right is Eugene Fox, manager of personnel.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between April 15 and April 30.

Thirty-year: Dept. 045, L. E. Brown, O. A. Correll; 049, A. Yorges; 195, C. V. Spear; 202, E. F. Miller; 400, J. C. Conner.

Twenty-five-year: Dept. 002, J. Butera; 027, J. Alvarez, J. Rubalcado, J. W. Shivers; 045, I. Bracamontes; 049, W. H. Davis; 059, E. Brogan; 140, F. Lay; 149, W. C. Bowen; 400, L. C. Knapp; 453, R. D. Arave; 514, J. T. Ready Jr.; 515, Gertrude S. Hunter; 529, S. Merkowitz; 565, L. E. Reich; 732, A. R. Schwartz.

Twenty-year: Dept. 016, M. G. Mercer; 031, G. C. Weatherbie; 058, L. M. Goodloe; 142, J. W. Collins; 250, N. L. Oftedahl, A. S. Ojeda; 758, J. S. Good; 763, V. J. Lavis; 830, Eva D. Ulsund; 833, Mildred K. Erwin; 967, L. E. Peterson.

Fifteen-year: Dept. 002, R. E. Eide; 031, T. H. Fisher; 143, G. A. Rummel Jr.; 144, L. W. Williams; 149, Helen R. Jenks, G. W. Vinas; 401, J. J. Datin, F. H. Felchin, B. P. Ferguson, F. J. Gill, F. J. Goodrich; 453, T. N. Norman; 545, H. H. Grogan, R. K. Jepperson; 566, J. S. Roux; 579, D. Moore; 588, O. W. Ayers; 733, N. Chaudoin.

Ten-year: Dept. 019, D. Parker; 142, T. Logan; 196, F. A. Fox; 250, R. Dixon, R. L. Howard; 518, A. J. Nybo; 524, Leona F. Houchin, C. Moreno, Barbara P. Schrader; 532, R. F. Maloney; 574, Genevieve Ruan, Harriett A. Sweeney; 579, J. E. Harrison; 595, Betty J. Persico; 780, Laurene A. Conklin; 836, M. A. Hinkle; 952, J. W. Vega; 954, L. L. Fowler Jr.; 979, R. J. Brackett, R. E. Dalton, M. S. Taylor; 985, J. R. Cruikshanks, W. E. Leutloff; 986, D. C. Swanson.

STROMBERG DATAGRAPHICS

Ten-year: Dept. 8510, P. M. Lata; 8810, H. G. Abernathy.

ELECTRONICS

Ten-year: Dept. 422, A. A. Newell; 423, R. E. Thompson; 426, J. B. Thelen; 465, Dorothy D. Herring; 615, A. Joan Liggett; 811, G. P. Tricoles.

Invention Disclosures

WEISINGER — M. D., Dept. 572-20, bounding of metal matrix composite tapes and sheets by the autoclave method.

ADSIT—N. R., Dept. 572-10, protective coating of SiC filament.

KUCALA—J. T., Dept. 045-00, GRAPEL wrench assembly.

ROGERS—S., Dept. 595-00, broadband matrix switch for use at ultra-high frequency.

MILLICAN — F. M., LAUE — H. H., Dept. 541-00, dielectric septum corrector for broadband antenna-radome boresight errors.

Retirements

CONVAIR

BELDEN—Joe M., Dept. 985-1. Seniority date Mar. 11, 1957, retired April 5.

CHASTAIN — O. Lee, Dept. 574-3. Seniority date July 27, 1959, retired April 5.

GREENWAY—Walter E., Dept. 146-6. Seniority date Sept. 10, 1956, retired March 29.

HILL—Arthur H., Dept. 954-1. Seniority date Nov. 17, 1961, retired Feb. 18.

INGLISH—Joe A., Dept. 835-1. Seniority date May 2, 1956, retired April 5.

MORRISON—Royal H., Dept. 756-0. Seniority date May 16, 1956, retired Feb. 19.

ROBERSON—Carl R., Dept. 574-3. Seniority date April 5, 1954, retired April 5.

WOOD, Leonard J., Dept. 250-1. Seniority date Oct. 7, 1953, retired April 5.

Rider-Driver

RIDERS WANTED — From Flinn Springs, El Cajon area to Lindbergh Field. 7:00 a.m. to 3:30 p.m. shift. Call Ed Carman (home) 445-4662.

RIDE WANTED—Or car pool from Encinitas-Leucadia-Cardiff to Kearny Mesa plant, 8 a.m. to 4:45 p.m. shift. Phone R. B. Hayes, ext. 1223 KM.

General Dynamics News

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Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Awards

Employe Suggestion Awards approved for the week ending April 5, 1968:

Dept. 001-0, C. M. Barnard, $15, B. U. Santi, $7.50, R. W. Smith Jr., $7.50; Dept. 015-0, A. J. Capuccini, $17.30, E. W. Kirkendall, $15, R. W. Menzie (three awards), $45; W. Ross, $15, L. W. Tracy, $17.30; Dept. 015-3, J. Hurtubise, $24.20, V. Cancino, $22, R. V. Lucero, $22; Dept. 027-0, R. J. Dunn, $15.50, T. W. Kearns, $58.50, C. L. McNeal, $143.10, L. F. Pendarvis, $15, W. R. Piercy (two awards), $23.45, W. L. Worthington (two awards), $23.45.

Dept. 142-1, L. S. Chicoine, $18.50; Dept. 144-1, W. H. Behrens, $258.50, W. G. Lux, $130; Dept. 146-6, W. L. Vierra, $15; Dept. 149-7, J. Makis, $77.40; Dept. 149-8, M. L. Atkins, $35.20; Dept. 195-6, C. B. Ward, $15.

Dept. 401-2, A. Lutz, $15; Dept. 454-0, L. M. Shaw, $17.40; Dept. 524-5, P. L. Lockwood (two awards), $30; Dept. 526-2, W. V. Taylor, $86.80; Dept. 541-0, A. Sansone, $15; Dept. 578-5, K. Ponchetti, $15.

Dept. 733-0, K. J. Croft, $62.70; Dept. 761-0, L. L. Ripley, $15; Dept. 763-1, T. M. Sammon, $50; Dept. 780-1, M. L. Underwood, $15; Dept. 833-1, B. J. Bakkedahl, $52.20; Dept. 840-3, C. W. Glasgow, $15; Dept. 842-0, M. C. Hight, $15; Dept. 955-0, A. Barnhard, $46.10; Dept. 956-0, F. O. Clark, $15; Dept. 979-1, J. A. Schnabel, $306; Dept. 979-3, D. E. Hawk, $15, and Dept. 988-8, R. C. Zuranski, $50.

Employe suggestion awards approved for the week ending April 12, 1968:

Dept. 001-0, J. W. Hyland, $7.50, W. W. McDaniel, $7.50; Dept. 005-0, J. R. Price, $15.00; Dept. 015-0, A. W. Beckman, $41.30, S. Brown, $341.40, J. K. McDonough, $15.00; Dept. 027-0, R. J. Dunn (two awards), $31.60, W. E. Jaynes, $16.70, L. F. Pendarvis (three awards), $98.70, W. R. Piercy (two awards) $39.85, H. J. Wallendorff, $16.70, W. L. Worthington (two awards), $39.85; Dept. 031-0, R. R. Atkinson, $15.00; Dept. 049-0, L. C. Foust, $17.80, C. Rosefeld, $30.00.

Dept. 144-2, C. L. Marks, $35.50; Dept. 149-2, V. Moe, $29.90; Dept. 196-0, M. B. Showers, $16.90.

Dept. 250-0, L. E. Ford, $25.00; Dept. 250-3, C. J. Lewis, $121.30; Dept. 250-5, F. Tellez, $74.10.

Dept. 400-4, L. B. Werts, $202.70; Dept. 400-6, D. M. Williams, $40.90; Dept. 401-0, B. F. Armas, $15.00; Dept. 401-4, E. R. Kline, $143.10; Dept. 401-5, C. Farmer, Jr., $53.70, H. G. McFeely, $17.80.

Dept. 810-0, L. W. Hesseltine, $25.00; Dept. 966-4, C. C. Dickinson, $15.00; Dept. 985-1, H. A. Kamman (two awards), $39.70, R. L. Kirby, $49.00.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Monday April 29, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 14 auditorium, Tuesday, May 7, 8 a.m. for first shift; today April 24, 4:30 p.m. for second shift.

SAN DIEGO STATE

In-plant graduate-level courses open in Advanced Calculus and Modern Algebra. Advanced Calculus: 4 to 5:15 p.m. Mondays and Thursdays, Room 8, Bldg. 17 KM; Modern Algebra: 4 to 5:15 p.m. Mondays and Thursdays, Room 2, Bldg. 17 KM. Enrollment limited. Phone Dave Chigos, educational services, ext. 1931 KM.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF-STUDY — A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Personals

CONVAIR

We wish to express our thanks for the kind expressions of sympathy and assistance given upon the death of our husband and father, Herbert J. Hawthorne.

The Hawthorne Family

* * *

I wish to thank my many Convair friends for their kindness and expressions of sympathy received following the death of my wife, Tommy G. McCann.

James E. McCann
Dept. 170-9

* * *

Your kind expressions of sympathy and the flowers received following the death of Ernest P. Hollenbeck (retired 1958) were deeply appreciated.

Mrs. Ernest P. Hollenbeck and family

Births

CONVAIR

OOSTYEN—Son, Jeffery Edward, 8 lbs. 3 oz., born April 4 to Mr. and Mrs. John Oostyen, Dept. 588-0.

Deaths

CONVAIR

SIMA—Joseph, Dept. 149-6. Died April 16. Survived by wife, Mildred, two daughters, Nancy and Mrs. Marilyn Lipscomb.

Craftsmanship Awards Earned By Nine Depts.

(Continued from Page 1)

100 planning pages for a 72.6 per cent quality improvement over 1966. Dept. 731 achieved a 31 per cent improvement—11 per cent better than its goal of 11.8 defects per 1,000 manhours.

Dept. 731, Atlas and Centaur final assembly departments that were merged during the last quarter of the year, had combined efforts reflecting 37.6 per cent improvement.

Employes in Dept. 780-2 reduced defects to 15 per 1,000 manhours for 32.8 per cent improvement.

Dept. 001 reduced defects to 44.3 per 1,000 manhours for a 77.1 per cent improvement over 1966, Dept. 015 exceeded its improvement goal for 22.3 per cent quality level improvement and Dept. 518 reduced defects to 121.8 per 1,000 manhours for 21.5 per cent improvement.

Personnel in Dept. 833-2 achieved 20 per cent improvement by reducing defects to 12.3 per 1,000 manhours and Dept. 836 reached its 20 per cent improvement goal by reducing defects to 10 per 1,000 manhours.

Leadership Class Scheduled in June

A six-week University of California Extension course in "leadership principles and practice" will be given at Convair division's Kearny Mesa plant beginning June 24 with David Chigos of the division's educational services staff as instructor.

Classes will be held from 4:30 to 7:30 p.m., Mondays and Wednesdays, in Bldg. 17, Rm. 1, from June 24 through July 31.

Enrollment will be limited to 18 participants who have had supervisory experience or have authorization from the instructor for attendance. Cost of $50 may be reimbursed through the division's tuition refund plan.

The course will include lectures and a "sensitivity training" laboratory and will be designed to increase effectiveness in interpersonal relations and understanding of oneself as a leader and others as individuals and as members of working groups.

Phone Chigos at ext. 1931 KM for additional information and enrollment.

'Managing the Future' Conference Subject

"Managing the Future" will be discussed at a National Management Association Regional Management Development Conference April 27, in San Diego at California Western University.

The conference is presented by the San Diego Area Council of Management Clubs to explore future problems of organizational and personnel management.

Speakers will be Dr. M. S. Wadia, California Western University; Dr. Lawrence Vredevoe, UCLA; F. L. Fenstermaker, Autonetics.

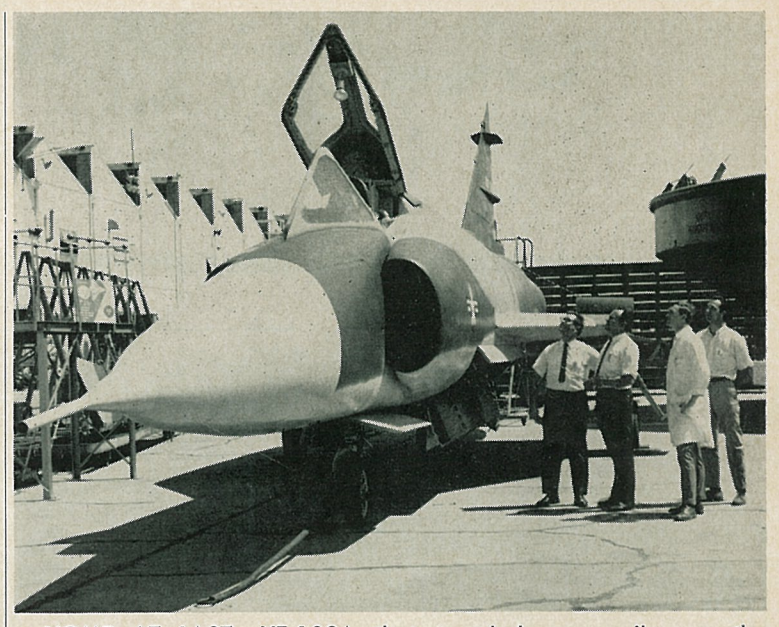
Applications are available at all Convair Management Club Booster stations. Enrollment fee is $5. Registration is at 8:30 a.m. in Boney Hall.

Report On-Job Injury Or It Can Be Costly

Seeking medical advice or treatment from a private doctor for on-the-job injuries can be costly.

California law obligates the employer to supply treatment for injuries suffered at work and they must be reported promptly to plant medical facilities or supervision.

If an employe goes to a private doctor for treatment of on-the-job injuries he does so at his own expense. Such cases are not covered by group insurance.



HOME AT LAST—YF-102A that traveled more miles on the ground (as an Air Force exhibit) than it did in the air is currently stored at Convair LF plant before entering Aerospace Museum.

Much Traveled Plane To Enter Air Museum

YF-102A No. 53-1787, the first 102 to break the sound barrier, returned to San Diego this month after a decade and 400,000 miles of travel, all on the ground.

Known in Convair during its manufacture as the "Hot Rod" because it was completed in a record 117 working days, the plane was the first on which the "area rule" was applied, involving a fuselage configuration change variously referred to as "coke bottle" or "Marilyn Monroe" shape.

Converted to an Air Force traveling exhibit, transported by truck and trailer, the airplane went "on the road" in 1958 and since then has cris-crossed the U.S. many times, stopping to go on display at first one point and then another.

Now its traveling days are over. Presented by the Air Force to the San Diego Aerospace Museum in Balboa Park, the plane currently is stored at Convair's LF plant (west side of Bldg. 4) until museum space is available. It was trucked to LF from Norton AFB by an Air Force crew headed by Lt. Col. R. E. Mauser.

The plane, built at San Diego in what is now Plant 19, broke the sound barrier on its second flight from Edwards AFB, Dec. 21, 1954. Subsequently it was used in extensive testing at the desert base and logged 216 flights before being permanently "grounded" to assume the role of traveling exhibit. Its first appearance was at the Antelope Valley (Calif.) Fair in September, 1958.

F-111 Assembly Work Centered at Plant 19

(Continued from Page 1)

established for the program," he said.

"We started building F-111 components in October 1966," Rote said. "At that time we had four transfer items from Fort Worth—the fixed and pivot armament pylons, the stabilization boom and the forward electronics bay. The pylons and stabilization boom work was begun at Plant 19 and the electronics bay assembly was started at Lindbergh Field."

F-111 assembly work in progress at Plant 19 now includes in addition to the armament pylons and stabilization boom, the Phoenix pylons, fixed and pivot fuel pylons, ferry wing tips, weapons bay fuel tanks, aft center side fuselage, and the forward electronics bay.

Electronics bay assembly facilities, including all subassembly and final assembly were moved to the north end of Bldg. 2 during the third week in March.

"The entire move was made without a hitch," said J. R. Benedict, foreman of electronics bay subassembly. "The subassembly work was moved on a Saturday. Crews put their tools down on Friday at the LF plant and picked them up at Plant 19 on Monday. The assembly line was moved a station at a time, but no time was lost in either area."

The northeast corner of Bldg. 2 is presently being readied for production of F-111 600-gallon external fuel tanks. Thirty-seven tanks have thus far been fabricated under an R&D program at LF.

"Our work area is in the process of being activated for tank production," said R. A. Davis, foreman in charge of external fuel tanks. "We plan to use welding equipment previously used for F-106 external tanks, and we will be bringing over from LF an automatic, voltage-controlled 'balanced wave' welding unit."

"Also, the chamber used for testing F-106 tanks is being rebuilt and will be used for F-111 tanks," Davis said.

External tank production facilities are scheduled for completion late in May.

The weapons bay primary and secondary fuel tanks are well into production and are on schedule. Tank production lines were started in November 1967.

Additional work to that already in progress at Plant 19 includes SRAM pylons and fixed cowl assemblies which will start in May, and spike assemblies scheduled to begin in June. Fabrication of plastic and metal-bonded assemblies will remain at LF which has production facilities.

"The number of personnel presently involved in assembly work at Plant 19 is about 325 on two shifts," Rote said. "This figure is expected to increase during 1968."

Foremen in charge of F-111 assembly are: ferry wing tips, D. E. Palumbo; pylon assembly (fixed and pivot armament, Phoenix, and fixed and pivot fuel), L. C. Hare, first shift and E. L. Wallin, second shift; primary weapons bay tank, G. H. Wilson; secondary weapons bay tank, D. L. Cook; electronics bay subassembly, J. R. Benedict; electronics bay major assembly, J. T. Mitchell, first shift and Andy Young, second shift; stabilizer boom, O. D. McGraw; aft center fuselage, G. D. Williams; fixed cowl, F. P. Vining, and external fuel tanks, R. A. Davis.

Salvage Schedule

Next employes sales day at the Convair salvage yard, Lindbergh Field plant, will be Saturday, April 27. Hours are from 8 a.m. until noon. Entrance is by ID card. Children and pets are not allowed inside the yard.

'Education With Industry' Officers Briefed at GD's Corporate Hdq.

Nine Air Force officers in "Education With Industry" programs at Convair and Fort Worth divisions recently spent a week in New York for a series of briefings at General Dynamics Corporate Headquarters and a tour of Grumman Aircraft Co. engineering and production facilities in Garden City, Long Island.

They were Maj. Dale Johnston, Maj. Alton Hendrick, Capt. Albert Smith Jr. and Capt. Robert Berry from Convair and Maj. Leonard Davidek, Maj. Wendell Martens, Maj. Maurice Miller, Capt. James Wolfe and Capt. Rod Dale from Fort Worth.

The group was briefed on General Dynamics organization and the Management Upgrade program by Algie A. Hendrix, vice president; government marketing and sales objectives by Ted Le Fevre, vice president and general manager-Washington office; contracts and purchasing by Max Golden, vice president; and contracts by Robert A. Wohl, assistant to the vice president-contracts.

Also electronic data processing by Leonard Smith, executive assistant, and on engineering and program development and research and development objectives by Ed Ball, director of general engineering and administration, Sam Perry, director of military programs analysis, K. E. Van Every, aerospace systems engineering staff, and Warren Eding, director of research and advanced program development.

David Rowe of the Corporate industrial relations staff was host.

The visiting Air Force officers saw F-111B and other aircraft production lines and the Lunar Excursion Module area and clean-room facilities during the Grumman visit.

Those from Convair joined those from Fort Worth April 1 and 2 for a tour of engineering facilities and F-111 production areas at Fort Worth division.

A tour of Bell helicopter facilities in Dallas, Texas, also was made April 3 with the group being taken for a flight in a UH-1H "Huey" copter.

Clocks to Go Ahead An Hour This Sunday

General Dynamics people are reminded that Daylight Saving Time goes into effect this Sunday, April 28.

Clocks will be set ahead one hour at 2 a.m.

The hour will be regained when Standard time is resumed on the last Sunday in October.



QUALITY MEN—Spring meeting of the Corporate quality control panel was held in Fort Worth. Standing at rear, from left: J. W. Castle, Quincy; D. R. Miller, Convair; J. P. Toner, Quincy; E. M. Marcus, Electric Boat; M. L. Curland, EB; G. H. Schwab, chairman, Canadair; O. R. Goode, EB; R. F. Williams, Quincy; H. P. O'Donnell, EB; A. P. Alaimo, Electronics; R. C. Smith, FW. Seated, from left: D. W. Gusse, Pomona, K. M. Boekamp, Convair; E. P. Parkinson, Canadair; R. C. Stevens, S-C, Roch.; D. M. Williams, Convair ETR; P. I. Harr, CHQ; R. H. Nicholson, Electronics-SD; D. R. Archibald, Convair; L. I. Medlock, Convair; E. R. Weiher, FW; A. O. Watson, FW; E. F. Trainor, Quincy; F. H. Rack, Quincy; J. F. McDonnell, Pomona; and Del Rogers, FW.

Move Under Way For Standardizing Engineering Drafting Procedures

Means for closer cooperation and greater standardization of engineering drafting procedures and practices were discussed by representatives from Corporate Headquarters and nine General Dynamics divisions or subsidiaries at an engineering data standardization conference at Convair division.

Economic advantages and a reduction in "learning time" following interdivisional transfer of personnel or of engineering or manufacturing tasks is expected to result.

Edward L. Ball Jr., Corporate director of general engineering and administration, outlined conference objectives and Thomas A. Billings, chief of engineering practices for Convair, was moderator for the two-day session.

Others attending included Ed Ward, CHQ; W. L. Ames, Electric Boat; Bert Brown, Fort Worth; James Greer, Stromberg-Carlson; Derek Dukes, Jesse Haire, Charles Perdue and M. J. Hiatt, Stromberg Datagraphics; J. W. Luening, Electronics-Rochester; R. H. Madden, Quincy; A. E. Palmer, Pomona; Alex Thomson, Canadair Ltd.; J. J. Mack and T. H. Brunner, Convair.

Results of a recent Convair division study which is expected to result in implementation of new engineering drawing practices on new and some existing programs were presented and discussed.

Under the proposed change, drawings will be prepared in ink on a stable-based material such as mylar film rather than by pencil or vellum.

Billings said such drawings will have better legibility, will produce better microfilm, can produce copies in a shorter "run time" and can be maintained and changed easily.

"With new base materials, new pens and new fast-drying inks now available, traditional objections to inked drawings are no longer valid," he said.

Criteria for the proposed new drawing practices are to be provided by Convair.

Pomona division will prepare a questionnaire on drawing formats now in use, results of which can be used in standardizing practices and arranging for cost saving through quantity procurement of drawing forms.

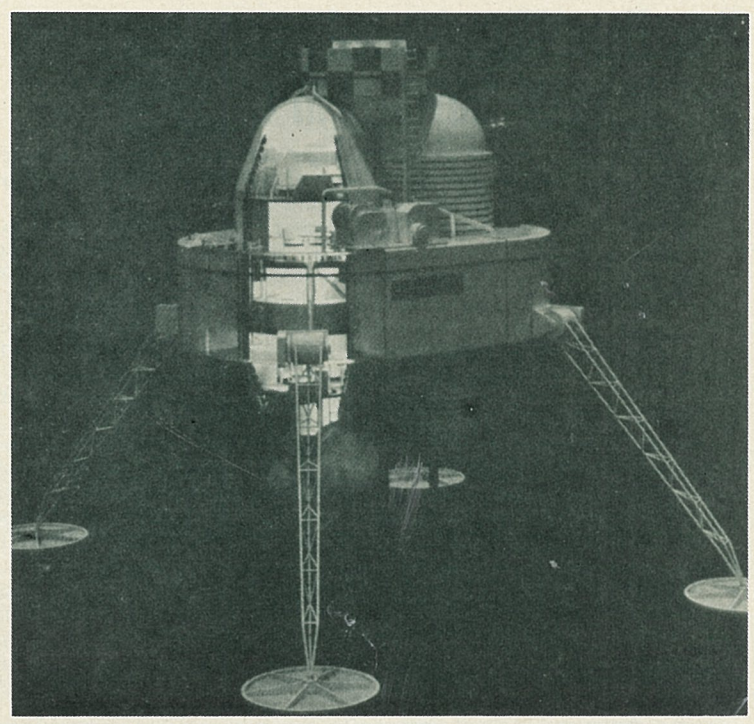
Fort Worth division is to draft a format for partial standardization of division drafting room manuals.

Other practices and procedures discussed that may lend themselves to future standardization include preferred parts lists, design directories, numerical-control drafting, computer-aided design, glossaries of terms, uses of microfilm and electronic data processing.

The group's next meeting is scheduled in October at Canadair Ltd.



ENGINEERING EXCHANGE—Attending General Dynamics' engineering data standardization conference for exchange of information and "brainstorming sessions" last month in San Diego were (front row from left) J. W. Luening, Electronics-Roch.; W. L. Ames, Electric Boat; T. A. Billings, Convair; T. H. Brunner, Convair; Derek Dukes, Stromberg Datagraphics; (back row from left) M. J. Hiatt and Jesse Haire, Stromberg Datagraphics; Bert Brown, Fort Worth; James Greer, Stromberg-Carlson; R. H. Madden, Quincy; Charles Perdue, Stromberg Datagraphics; J. J. Mack, Convair; Alex Thomson, Canadair, Ltd.; A. E. Palmer, Pomona, and Ed Ward, Corporate Headquarters. E. L. Ball Jr., Corporate director of general engineering and administration, also attended but was not present for photo.



UNDERSEA STATION—Manned underwater station is being developed for U. S. Naval Civil Engineering Laboratory by Electric Boat division of General Dynamics. One cylinder provides quarters for five scientists living and working at 6,000-foot depths; other houses power plant.

EB Studies Scientific Station To Operate in Ocean Depths

By the 1970s teams of scientists will be working a mile beneath the ocean surface for 30-day periods in fully equipped oceanographic laboratories.

The scientists' ocean laboratories will be called manned underwater stations. Electric Boat division has been awarded a conceptual contract for the development of such a station by the U.S. Naval Civil Engineering Laboratory (NCEL), Port Hueneme, Calif.

The scientific station will provide a shirtsleeve environment for five scientists at depths to 6,000 feet in the open ocean. It will be an operating platform from which scientists can accomplish useful work on the bottom and in the water column.

The station will be composed of two vertical cylinders resulting in a vehicle 42 feet long, 48 feet high and 30 feet wide. One of the cylinders will house a power plant using an umbilical cable to the shore or surface. Scientists will live and work in the other cylinder. Laboratory space will be provided on two decks and a third deck will be used for berthing and living quarters. A fourth deck is provided for station operation and control.

From the station, scientists will be able to observe undersea environments either directly through viewports or indirectly by closed circuit TV. They will be able to collect samples with a manipulator and bring them into the station's pressure envelope through a lock-in/lock-out system. A small drone is envisioned for extended observation.

In use, the station will be positively buoyant and tethered from an anchor. All equipment that could become entangled will be jettisonable. Additional droppable ballast also is incorporated in the design. A connecting sphere between the two hulls will provide an escape trunk feature similar to that used on modern submarines. Emergency life support and power will be available.

The manned underwater station project is tied in with other ocean engineering operations concerned with ocean exploitation. For example, the Deep Submergence Rescue Vehicle being developed and built for submarine rescue operations can be mated to the station. Communications from the station to submerged vehicles, surface vehicles, land-based stations and even orbiting satellites is being considered.

Five General Dynamics Men Earn National Recognition

Five General Dynamics men received major awards at the 49th annual meeting of the American Welding Society this month in Chicago.

Kenneth R. Perun, a Convair division metallurgical engineer, was awarded the James F. Lincoln gold medal award for "greatest original contribution to the advancement and use of welding" for a paper on "diffusion welding and brazing of titanium 6A1-4V process development."

J. C. Collins, R. E. Key and H. I. McHenry of Fort Worth division received A. F. Davis silver medal awards for a paper they co-authored on "Design and fabrication of D6AC steel weldments for aircraft" that was selected as "best contribution to the progress of welding."

Collins is a senior manufacturing research engineer, Key a senior design engineer and McHenry a metallurgist.

Samuel Goodman, welding development group supervisor for Electric Boat division, received the W. H. Hobart memorial medal for a paper co-authored with R. C. Ashauer on "automatic plasma arc welding of square butt pipe joints."

The Hobart medal is presented annually to authors of the paper judged by the awards committee as "best contribution to the progress of welding on the subject of pipe welding, welded piping or similar applications."



NATIONAL HONOR—Kenneth R. Perun, Convair metallurgical engineer, was among five General Dynamics men honored by American Welding Society.

Ten Earn 'Big Nickel' Awards For $87,544 Savings in Costs

Cost avoidance totaling $87,544 brought "Big Nickel" awards to 10 Convair employes at the end of the Big Nickel program's first three-month period.

The program, a Lockheed award, was instituted by Convair at the first of the year to recognize cost avoidance suggestions and projects originated by employes working on the C-5 program.

Convair manufactures the empennage for Lockheed's huge Galaxy transport.

E. E. Miller of Dept. 045 received commendation and a Big Nickel for a cost avoidance project involving manufacturing aids for C-5 skin plank trim, and rearrangement of the work area.

R. E. Pendarvis of Dept. 045 was awarded a Big Nickel for a suggestion involving the production of manufacturing aids to facilitate production effort.

Other Big Nickels went to: D. L. Weelberg, Dept. 015; J. D. Goodwin-Austin, Dept. 016; G. F. Reutlinger, Dept. 019; J. L. White, Dept. 045; C. Wallman, Dept. 149-0; R. P. Poston, Dept. 511-6; A. R. Herman, Dept. 820-0; and H. M. Sturdyvin, Dept. 820-01.

"All C-5 employes are encouraged to participate in this cost avoidance program since it is to everyone's advantage to reduce production costs," said R. W. Miller, C-5 program manager.

"We are pleased with the results of the program at the end of this first quarter and are looking forward to even more suggestions during the second quarter."



"NICKEL" WINNERS—R. E. Pendarvis (left) and E. E. Miller of Dept. 045, whose cost avoidance suggestions helped boost "Big Nickel" program's first three months savings to $87,544, check fit of an access panel in the C-5 stabilizer. Reverse side of "coin" is shown in inset.

Graduate-Level Math Courses Begin May 6 at Kearny Mesa

San Diego State College graduate-level extension courses in advanced calculus and modern algebra will be taught at Convair division's Kearny Mesa plant beginning May 6 by assistant professors from the college mathematics department.

Both courses will be open to employes who are college graduates with strong math backgrounds and are among 10 courses required for the master's degree in mathematics.

Advanced calculus will be taught from 4 to 5:15 p.m., Mondays and Thursdays, in Bldg. 17, Rm. 8, by Dr. J. B. Smith and modern algebra from 4 to 5:15 p.m. Mondays and Thursdays, in Bldg. 17, Rm. 2, by Dr. Nicholas Morez.

Enrollment will be limited to 18 students for each class and may be made by phoning David Chigos at educational services, ext. 1931 KM.

Tuition costs will be underwritten by Convair division as part of the Management Upgrade program. Textbooks will cost $8.50 for the advanced calculus and $8.95 for the modern algebra course.

Attendance must be on the employe's own time. Employes working after 4 p.m. may obtain Form A3784 from educational services to request a 40-hour irregular work week. The request must be approved by the individual's supervisor and department head.

Special 'Dr. Dolittle' Showing Offered at Bargain $1.50

Attention animal lovers! The movie "Dr. Dolittle" will be shown at bargain rates Saturday, May 4, at Cinema 21 in Mission Valley.

The film, sponsored by the Convair Management Club for all General Dynamics employes and their families, will be from 9:30 a.m. to 12:40 p.m. Doors will open at 9 a.m.

Special prices for the event are $1.50 for adults and $1 for children under high school age. There is no extra charge for loge seats. (Normal prices are $2.75 for loge and $2.25 for orchestra.)

Tickets are available from Management Club Boosters at all locations. Those interested are advised to purchase their tickets early, as only 950 tickets are available. Tickets will be sold through April 30.

Camera That Photographed Atlas Engines Separation Presented to Aero Museum

A surplus camera capsule and its recovery parachute, used to return photographs of "staging" of Atlas missile 7F on Aug. 13, 1962, has been presented by Convair division to the San Diego Aerospace Museum.

The capsule was turned over to Col. Owen F. Clarke, USAF, ret., the museum director, by Jim Greenwald, Convair property administrator, and P. R. Grokoest, property auditor.

The 16-mm camera, mounted in an aluminum and stainless steel capsule with a thick quartz window, was used to photograph booster engines separation while the Atlas was about 50 miles up and 500 miles down-range from Cape Kennedy.

After being jettisoned, the capsule parachuted into the ocean. A radio beacon and strobe light were activated automatically to aid in recovery.

Atlas SLV-3X Configuration Study Approved

Convair division has been authorized by NASA's Lewis Research Center to proceed with a three-month configuration definition study for the proposed Atlas SLV-3X **(GD/NEWS, Feb. 28).**

Joseph W. Coddou is program manager with Larry M. Nelson technical manager for the study.

"While the configuration of the SLV-3X is generally defined, there are certain areas where alternate equipment could be installed or where conceptual design or analytical studies are necessary to define the system or vehicle configuration sufficiently to permit an orderly procurement of the first article SLV-3X," NASA-Lewis officials stated.

"The scope of this task is limited to those studies and conceptual designs of systems required to identify the necessary changes to existing systems and thus determine the configuration of the vehicle. The effort shall be in sufficient depth to support decisions in these areas."

Company-funded studies on the SLV-3X concept, which led to the definition authorization from NASA, have been under way more than a year under the direction of Andrew Kalitinsky, director of launch vehicle programs engineering, Mel Barlow, manager of vehicle applications engineering, and E. J. Hujsak, chief of preliminary design.

The SLV-3X has potential use as booster for Mariner-Mars 1971 missions. Vehicle missions being considered in the current study range from low-orbit missions with heavy payloads to high-energy probe-type missions with light payloads.

IDEP Will Hold Workshop in LA

Edward J. Reid, Interagency Data Exchange Program (IDEP) representative for Convair division and a member of the IDEP contractors' advisory board, will be chairman for a data management workshop at the sixth annual IDEP workshop conference May 1-3 in the Ambassador Hotel, Los Angeles.

Other workshop sessions will be conducted on introduction to data systems, IDEP representative orientation, IDEP future planning, IDEP access coding and alert-failure analysis reports, importance of data in reliability parts organization, and IDEP promotion.

Guest speakers for the conference will include W. C. Christensen, director of technical information from the Defense Research and Engineering director's office in Washington; Lt. Gen. J. W. O'Neill, commander of the Air Force Space and Missile Systems Organization; and Capt. F. J. Heiler, officer in charge of the Naval Fleet Missile Systems Analysis and Evaluation Group in Corona, Calif.

The annual workshop conference will be sponsored by the Army, Navy, Air Force, NASA and the IDEP contractors' advisory board.

Help! Have A Rental? Pls. Call Ext. 1931 LF

Anyone know of a house for rent?

An urgent appeal is being issued to General Dynamics personnel to help find rental houses for new Convair employes.

Anyone knowing of a suitable house, please call Lou Braun of Convair employe services at ext. 1931, Lindbergh Field.

"We are hiring many skilled people from outside the San Diego area who are in need of housing when they arrive here," said Braun. "We hope our employes may be able to help us find homes for these people."

Houses in most demand are three-bedroom, 1½ bath, children and pets permitted.



AIR MEDAL—Maj. Dale A. Johnston (right center), one of four Air Force officers in "Education With Industry" program at Convair, receives Air Medal from Col. James R. Ourand. Looking on, from left, are Capt. Albert H. Smith Jr., Capt. Robert H. Berry, T/Sgt. John Martinez, M/Sgt. Donald O. Dwyer, M/Sgt. Eugene E. Croft and Lt. Col. Joseph B. Garrison.

Convair 'Education With Industry' Officer Decorated For Bravery

Maj. Dale A. Johnston, one of four U. S. Air Force officers spending 10 months with Convair division under the Air Force Institute of Technology's "Education With Industry" program, has been awarded the Air Medal for meritorious achievement during a previous tour of duty in Southeast Asia.

Johnston was presented the medal and an accompanying certificate by Col. James R. Ourand, DCAS plant representative, in recent ceremonies at Convair's Kearny Mesa plant.

The certificate, signed by Harold F. Brown, Secretary of the Air Force, cited Johnston for exhibiting "outstanding airmanship and courage" during "successful accomplishment of important missions under extremely hazardous conditions" during the period from April 9, 1965, to July 18, 1967.

Maj. Johnston has been in the Air Force since 1954 and was serving as navigator on a KC-135A during the Southeast Asia assignment.

Electronics' Dietrich Earns Bond In 'Symbol and Slogan' Contest

Electronics-San Diego has a new Zero Defects "symbol and slogan" as the result of a contest during March.

The contest winner, F. W. Dietrich, was presented a $25 Savings Bond by R. H. Nicholson, manager of quality control. Dietrich's winning symbol graphically depicts an "out-of-tolerance situation which is brought under control by the Zero Defects 'sphere of influence.'"

Dietrich's slogan uses the letters GDE-SDO as prefixes and states: "Good Design and Engineering - Supported by Dependable Operations."

Selected for honorable mention were: M. M. Gimenez, W. H. Childs, F. G. Belsky and H. J. Ekberg. Their symbols will be displayed on posters in the near future.

Zero Defects committee members were: Jack Larson, Bob Keef, Otto Barksdale and Ron Brant.

CHIGOS PROMOTED IN NAVY RESERVE

David K. Chigos of Convair's educational services Dept. 130-3 has been promoted to the rank of lieutenant commander in the U.S. Naval Reserve. He is "leadership" instructor for Naval Reserve Officer's School 11-2 in San Diego.



CONTEST WINNER—F. W. Dietrich receives $25 Savings Bond from R. H. Nicholson after winning Electronics-SD "symbol and slogan" contest, as Zero Defects committee looks on. From left: Jack Larson, R. H. Nicholson, Bob Keef, Otto Barksdale, Dietrich, and Ron Brant. Symbol is shown at top.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Continued from Page 1)

the latter, *GD/NEWS* has published 49. Letters now are coming in at a rate of around five a day. Of the 75 letters pending, approximately half will be answered within the two-week period that Q and A set originally as the maximum waiting period. The others are taking longer, a good deal longer. These include questions that must be referred to more than one authority, and this involves reconciling one with the other. They also include questions involving interpretation and definition of company policy and procedure. And this is time consuming. Significantly, of the questions researched and answered so far, about 8 per cent have resulted in some change in procedure, working conditions, etc.

Think Hockey, Sleep Hockey

It's Rough on the House, But— Indoor Practice Pays Off

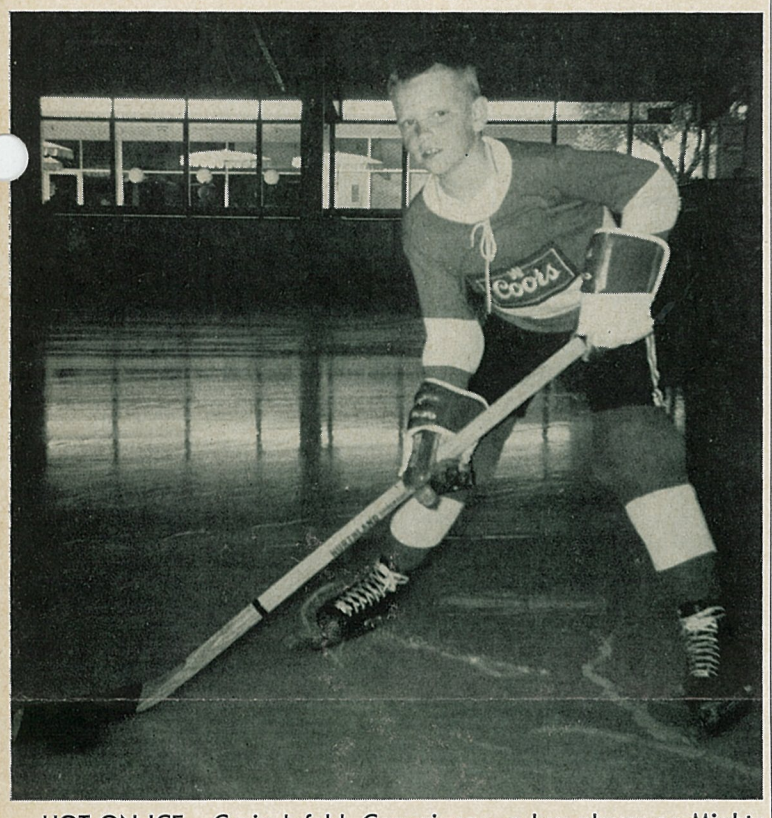
Craig Infeld, whose father, Allan Infeld, is a calibration technician in Dept. 142, practiced "skateless" hockey with his father and mother in the dining room last winter until the walls needed painting and the mop boards were splintered. Then they practiced in the living room until the family had to buy a new rug. So they moved to the den.

In fact, the Infeld family has practiced together nearly every day since Craig first lost his heart to the game, after seeing the San Diego Gulls play in 1966. Evidently the home sessions paid off because since first putting on ice skates last July, Craig has become a key player with the Redwing team in the Mighty Mite division (ages 6-8) of the San Diego Amateur Hockey Association.

During the season he scored a total of 40 points, helping his team win 22 of 23 games and making the Redwings the Mighty Mite division champions. During the season Craig executed three "hat tricks" (three goals scored in a single game). He played mostly the left wing position, but also filled in at center as well as defense.

"Neither my husband nor myself skate," Mrs. Infeld said, "but we've certainly learned a lot about the game since Craig became so devoted!"

Although the regular season is over, there's still hockey action. On roller skates, protected by football helmet and shin guards, Craig practices afternoons with friends in the family garage.



HOT ON ICE—Craig Infeld, Convair son, a key player on Mighty Mite division championship hockey team, scored 40 points during season (including three "hat tricks").



NEWLY ELECTED—New officers of Convair Recreation Association Employes' Council review plans for coming year. From left, Dick Bowen, president; Inez Schurr, secretary; Ezra Johnson, vice president; and Keith Sears, treasurer. "Western town" buildings at CRA Missile Park are in background.

General Dynamics Reps Will Take Part In Anti-Submarine Warfare Conference

General Dynamics representatives will participate in a meeting on marine systems and anti-submarine warfare April 29 through May 1 at the Naval Training Center in San Diego.

The meeting will be conducted under the auspices of the American Institute of Aeronautics and Astronautics (AIAA).

Among papers to be presented will be: ASW Radar Performance Analysis, by M. A. Schmidt of Convair; Analytical Model of Passive Detection by Sonobuoys, by J. E. Coxey, Electronics-SD, and N. H. Van Dorn and Y. Tamura, formerly with Convair; and Wide Eye — A Wide Range Detection and Classification, by William H. Ezell of Electric Boat division.

Attending will be VAdm. T. F. Caldwell Jr., ASW program director, Office of Chief of Naval Operations; and Hon. Charles F. Baird, Undersecretary of the Navy.

Other GD people participating include W. D. Wood, David J. Wheaton, W. C. Seaforth, Stephen T. Richards, Bernard J. Kuchta, Joel V. Langord, James B. Hall.

VE Proposals Save $600,000

Fourteen Convair launch vehicle programs personnel recently were awarded commendation certificates for submitting value engineering proposals that are saving the division $600,000.

They were William D. Daniel, Ted R. Harwood, Robert I. Gordon, C. K. Anderson, Darrel E. Parsons, Mickey Cornwall, Walter S. Hicks, Leonard O. Anding, E. H. Davies, James M. Rager, Don E. Risty, A. I. Ames, Robert C. Packer and Charles R. Cearley.

Grant Hansen, vice president-launch vehicle programs, and Jack Cannady, manager of finance, scheduling and administration, spoke briefly at the awards ceremony and pointed out that $200,000 of the $600,000 saving from the proposals was "good hard profit" and the equivalent of possible profit from a $3 million contract.

Dale L. Hodsdon is launch vehicle programs' value control coordinator and supervises the organization's value engineering group. The scope of the program has been expanded to include evaluation of administrative as well as engineering task VE proposals.

Conversion Kit Sold to Swiss

Sale of a Convair 640 conversion kit to S. A. de Transport Aeriens, a Geneva Switzerland charter operator, has been announced by P. M. Prophett, Convair director of aircraft sales and service.

Delivery of the kit is scheduled for June 1, 1968.

Kit installation, which updates the airplane's power plants with Rolls Royce Dart 10 propjet engines, will be made by Aviolanda-Woensdrecht, Holland. Aviolanda, a Holland aircraft firm, has previously modified two Convair model 440 airplanes for Martin's Air Charter of the Netherlands.

Under the contract between Convair and the Swiss firm, Convair will provide pilot and ground training, and technical representation immediately following the modification.

Convair's field service representative, W. W. Eddington, presently stationed in Amsterdam, will furnish technical assistance during the modification task.

Six-Week Course In Speaking Slated

Convair Toastmasters Club 3745 will conduct a six-week "speechcraft" course at 4:30 p.m. Wednesdays beginning May 1 in Room C at the CRA Clubhouse.

Instruction and practice in formal and extemporaneous speaking and fundamentals of parliamentary procedure will be included.

Enrollment fee is $4 with Convair Management Club to underwrite cost for its members.

For additional details, phone Joseph McCafferty, ext. 2972 KM, or Murray Franke, ext. 1271 KM.

Convair Son Wins 'Dribble and Shoot'

Greg Halemba, 17, son of Manfred Halemba of Convair's Dept. 452-0, recently won a championship trophy in a county-wide Dribble and Shoot basketball contest in which more than 5,000 boys competed.

Greg, a senior at Madison High School, won among 16 through 18-year-olds by outpointing Jim Woolf, also of Madison High, 94-90 in finals at halftime of the San Diego Rockets-Seattle game in the San Diego Sports Arena.

Salvage Accepting Station Wagon Bids

Convair salvage offices are accepting bids for sale of a 1962 Chevrolet Bel-Air station wagon, which may be inspected at the Kearny Mesa salvage yard.

Forms for bids are available at both Kearny Mesa and Lindbergh Field salvage offices. Bids will be opened at 1:30 p.m., May 8.

Softball Managers Meet Tomorrow

Softball managers for both fast and slow pitch leagues will meet tomorrow (April 25) at 7 p.m. in CRA Clubhouse, Kearny Mesa.

Team rosters are due at this meeting.

Medlock Speaker At QC Seminar

L. I. Medlock, Convair's director of reliability control, was one of four industry officials who discussed "the role of quality control in the modern industrial organization" April 20 in Santa Maria at a seminar sponsored by the Vandenberg AFB section of the American Society for Quality Control.

Henry Boyd and Carolyn Buman Take Double Honors in Show

Henry Boyd (Dept. 45-0) and Carolyn Buman (Dept. 966-4) took double honors in CRA Garden Club's annual Spring Rose Show April 7 in the Floral Association Building, Balboa Park.

Boyd's awards included best bloom in show and best grandiflora, while Carolyn Buman garnered "best" in florabunda and corsage entries.

Other "best of show" winners were Mr. and Mrs. Don L. Ingram (Dept. 491-0), best hybrid tea and grandiflora; Mr. and Mrs. Felix White (retired), best three hybrid tea and grandiflora; LaVonne Splinter (Dept. 110-0), best arrangement; and Cindy Sinnott (Dept. 59-1), best children's entry.

A total of 459 exhibits were entered.

CRA Garden Club meets the first Wednesday of each month and membership is open to all Convair employes and their immediate families. Next meeting is May 1 in Floral Bldg. 7:30 p.m. The program will include a short review of the Rose Show and a talk entitled "Cymbidium Orchids are easy to grow" presented by Commissioner Everett Henderson.

CRA Rockhounds Plan Weekend at Ogilby

CRA Rockhounds will meet at the Gold Rock Ranch at Ogilby on Saturday, April 27 for a weekend campout and field trip.

The group will go to Glamis on Sunday and spend the day searching for travertine in the area. Those not able to meet with the group Saturday should be at the Glamis store at 8 a.m. Sunday.

Camping facilities are available at the Gold Rock Ranch.

For further information call John Clancy, field trip chairman, at 463-8010 after 5 p.m.

Soccer Tickets Sell At Dollar Discount

Bargain tickets to the May 12 game of San Diego's newest professional sports team, the San Diego Toros of the North American Soccer League, are now on sale.

Toro games are played in Balboa Stadium and competition will be provided by the Los Angeles Wolves.

Tickets are offered for $2.50 ($1 reduction) and are available at all employe services outlets, Datagraphics, Electronics, Plant 19 (H. C. Medearis' office) and CRA Clubhouse.

Deposit Your Entry For Baseball Ducats

Tickets to May home games of the San Diego Padres will be up for grabs in the first CRA baseball drawing of the season May 1. This year's Padre club will be playing in San Diego's new stadium in Mission Valley.

All entries deposited in boxes throughout the plant by April 29 will be eligible and must include name, division, plant, department number, shift, plant phone extension. Entry slips are limited to one per person.

Boxes are located at Convair, Datagraphics, Electronics employe services outlets; H. C. Medearis's office, Plant 19; and CRA Clubhouse, Kearny Mesa.



DESERT CATCH—Bob Browning, (left) and Phillip Poche, CRA Fishing Club members display part of catch of corvina taken during trip to Salton Sea.

Lake Henshaw Outing Planned

The CRA Fishing Club will travel to Lake Henshaw for a two-day outing, May 4-5. There will be a potluck-fish fry Saturday evening.

Cabins, food, boats, motors and fishing supplies are available at the lake, as well as accommodations for trailers and camping. Those who wish to rent boats or motors should reserve them as early as possible.

Contact Earl McDaniel at his home, 469-4669, or Phil Poche, 422-6829 for further information.

* * *

CRA anglers who participated in the Fishing Club's April 6-7 Salton Sea outing report "we had more fish than 22 people could eat."



SAVING SPACE—Thousands of technical reports in Convair libraries now are preserved on space-saving microfiche. In center photo D. B. Burke, engineering librarian, holds microfiche that is equivalent to stacks of reports at right. In photo at left, Victor Stewart, research engineer, views page of report while holding 8½ x 11 pages of bibliography generated from computer search. At right, Keith Blair, library supervisor, and James Haskins, chief of materials research, discuss results of survey that favored special interest bulletin reporting on new scientific literature.



SPACIOUS—Convair libraries are well appointed at both Kearny Mesa and Lindbergh Field. Shown is view at KM.

New Computer Techniques Speed Library Information Searches

Convair division's technical libraries (Dept. 524-1) at Kearny Mesa and Lindbergh Field are integrating their capability to provide "instant information" with comprehensive "state of the art" literature searches by computer.

New computer techniques have been instituted by Convair's technical data systems, Dept. 591-0, and the library staff to produce bibliographies by specific technology interest area on easier to handle 8½ by 11-inch pages.

In addition to almost 400,000 technical reports now available in the libraries on NASA microfiche, 800,000 reports from DOD agencies are available by request on Defense Documentation Center (DDC) microfiche. More than 100,000 of the DDC reports are already available in the library.

Division personnel now have access to more than a million scientific and technical reports that can be "searched" at high speed by computer.

As an added bonus, 20,000 "old" Convair technical reports are being produced by DDC for its microfiche system at a rate of about 200 reports a week.

The library at KM is obtaining a microfiche duplicator that will reproduce a sheet of "fiche" within seconds and at a cost of less than eight cents each.

In the future, when a researcher wants a copy of a report for reference as well as immediate viewing, he can be given a microfiche copy immediately.

Twenty five microfiche viewers are being ordered for use in various departments throughout the division in viewing technical reports.

Keith Blair, library supervisor, said use of microfiche copies, rather than "hard copies" of reports, alone is expected to save several thousand dollars a year in reproduction costs.

A microfiche retriever cabinet that will hold 700,000 microfiche but occupy only 45 square feet of floor space also is on order for the KM library.

Any file drawer in the cabinet can be moved electronically from its storage location to the operator's position within 15 seconds.

The NASA microfiche file is increasing at a rate of 5,000 sheets per month. Last year the file was used by 647 division personnel and 22,600 "hard copy" pages were reproduced in addition to thousands of pages viewed.

"One could spend days searching printed literature indexes for information on a specific technical area but our computer information search and retrieval system can do a more thorough job in a few minutes," Blair said.

Previously, bibliographies were produced for requesters on large-size computer paper that was difficult to handle and review.

Under the new system, the search is performed by Control Data Corp. 106G computer in the scientific computer lab. Print out is recorded on 35mm microfilm by Stromberg-Carlson 4020 high speed microfilm printer in the telemetry data processing lab. The film is developed and printed on 8½ by 11 sheets by Xerox copyflow machine.

Visitors Invited For Tours Of Both Convair Libraries

This is National Library Week. Theme of the annual observance this year is "Be all you can be. Read."

P. D. Ferrara, Convair director of engineering administration and services, has invited interested personnel to visit the library facilities at Bldg. 4, Kearny Mesa, and Bldg. 5, Lindbergh Field.

In addition to extensive technical report files on microfiche, the Convair libraries have 205,000 "hard copy" technical reports, 25,474 books and 12,000 bound journal volumes on file and receives 700 technical periodicals. The library document card file contains 700,000 listings.

Library facilities are affiliated with 15 other local area scientific libraries with a combined total of more than three million publications.

Highly trained members of the library staff have an average of 11 years service with technical libraries.

Services of a multi-lingual translator are available, on contract, to library users with language assignments.

'Special Interest' Bulletins Favored

Convair technical and scientific personnel voted two to one in a recent survey, favoring reporting of new technical literature by bulletins broken down to special fields of interest.

Conducted for the Defense Documentation Center (DDC), the survey compared Technical Abstract Bulletins (TAB), that list new papers in 188 categories, with proposed special interest Group Announcement Bulletins (GAB). The latter got the nod.

OV1 Satellites Boosted Into Space by Atlas

Two Convair division-built Orbital Vehicle One (OV1) scientific satellites were fired to record-setting heights April 6 after being boosted into space from Vandenberg AFB atop Atlas 107-F.

The satellites, OV1-13 and OV1-14, after being separated from the booster, were carried by their built-in propulsion modules into orbits with apogees of more than 5,000 nautical miles—almost twice that of any previously launched. Both are spin stabilized and have perigees of about 300 miles.

The twin OV1s were the first launched by an Atlas F-series booster and the first to be enclosed in a new Convair-designed aluminum nose fairing. The launch was conducted by the 6595th Aerospace Test Wing at Vandenberg.

The OV1 program is under the direction of the Air Force Office of Aerospace Research.

OV1-13 houses nine experiments—seven for the Air Force Cambridge Research Lab to map charged particles in near-earth space, one for the Air Force Aerospace Research Lab to measure performance of newly developed cadmium sulphide solar cells in space, and one for NASA's Goddard Space Flight Center to measure the effects of space environment on friction and lubricants.

OV1-14 is carrying eight space radiation experiments for the Air Force Space and Missile Systems Organization and Aerospace Corp. One of the eight is located at the end of a folding boom that was deployed from the side of the satellite after it was in orbit.

Both satellites carried "nutation dampers" to offset small motions that could cause wobble about the axis of rotation during orbital flight.

A new spin-balance machine in Convair's dynamic balancing laboratory in Bldg. 5 at Kearny Mesa was used for the first time, checking the balance of OV1-14 under simulated operational conditions.

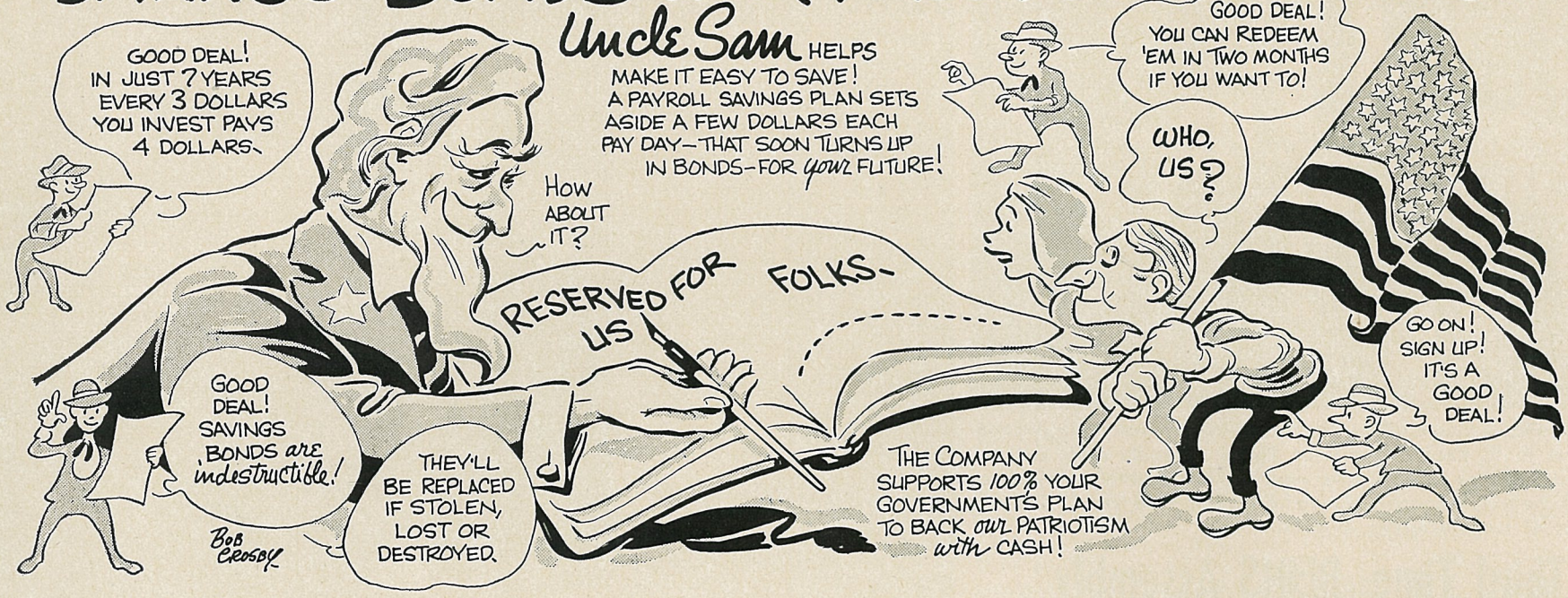
Also on a "first" for the OV1 program was use of pulse code modulation digital telemetry for return of more precise and a larger volume of data from the satellites and their experiments.

You can buy U. S. Savings Bonds regularly for as little as 50 cents a week.





SATELLITE SETUP—New aluminum fairing that encapsulated twin Convair-built Orbital Vehicle One (OV1) satellites for launch this month are checked in top photo, by Maj. Ray Keys, OV1 program manager for AF Office of Aerospace Research, and L. E. Ottem, Convair OV1 program manager. In lower photo, OV1-14 satellite appears a blur as it rotates on new spin-balance machine. Gordon Kugler operates control panel. F. W. Chapman is in background.



GENERAL DYNAMICS NEWS

SAN DIEGO EDITION

Vol. 21, No. 10 | PUBLISHED BY GENERAL DYNAMICS CORPORATION | Wednesday, May 8, 1968

GD Net Income Increases in First Quarter

Sales of General Dynamics Corporation for the three months ended March 31, 1968, were $652,265,000, compared with $472,056,000 in the first quarter of 1967, Roger Lewis, president, told share owners at the annual meeting in Chicago.

Net income for the three months ended March 31, 1968, was $12,450,000, equivalent to $1.19 per common share, compared with $10,399,000, equivalent to $1 per common share, in the first quarter of 1967.

All directors nominated were elected.

Lewis said that the nonoperation gain on the sale of the General Atomic division to the Gulf Oil Corp. in 1967 would be recorded in the second quarter of this year. All but certain minor contingencies relating to the sale have been resolved, he said, allowing the gain, approximately 80 cents per share, to be recorded in the second quarter.

The directors declared a regular quarterly dividend of 25 cents per common share, payable June 10, 1968, to share owners of record May 10, 1968.

More Centaurs Ordered by NASA

NASA has awarded Convair division a $4,771,390 fixed-price contract for production of two additional Centaur high-energy, upper-stage vehicles.

Deane Davis, Centaur program manager, said the two Centaurs will be used in Atlas-Centaur 21 and 22 missions for launch of NASA Orbiting Astronomical Observatory (OAO) spacecraft about a year apart late in 1969 and 1970.

Atlas SLV-3C boosters will be used in both launches from Com-

(Continued on Page 2)



THRIFTY—Squirrels are forward looking creatures, more so than a lot of humans. They plan ahead, saving food in summer in preparation for times when nuts are not readily available. Main difference between this and buying U. S. Savings Bonds regularly is that a cache of squirrel food doesn't draw interest.—San Diego Zoo photo.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

Q — Why were the engineering hours for reporting at LF changed to 8 a.m.?

A — Standardization of shifts for engineering was a management decision based upon a desire to have one start time for the entire department. Shift hours fall into the category of decisions which management must make with full realization that it is simply impossible to satisfy each employe's wishes. If deviation from nor-

(Continued on Page 6)

Drive Expected To Boost Regular U.S. Bond Buying

All General Dynamics plants and facilities in the San Diego area — Convair, Electronics-SD, Stromberg Datagraphics — will hold an annual solicitation next week aimed at increasing regular purchases of U.S. Savings Bonds by payroll deduction.

Principal aim at all points is to increase participation in regular buying and with this in mind the minimum remains at 50 cents a week, though larger deductions are encouraged, of course.

All employes not presently buying bonds regularly will be approached and given an opportunity to sign up. It's a simple matter requiring little more than a signature authorizing the deduction.

Employes may order Series E Bonds, which pay 4.5 per cent interest if held to maturity in seven years; and they also can sign up for Freedom Shares offered in combination with Series E Bonds on a one-for-one basis. Freedom Shares pay 4.74 per cent if held to maturity at four and a half years.

All present non-buyers are urged to seriously reconsider their family financial planning and include provision for regular Bonds buying through the most painless system of saving thus far devised—payroll deduction.

In adding his support to an all-out effort, Algie A. Hendrix, Corporate vice president, stated: "If some of our top competitors can achieve 99 per cent participation, General Dynamics should not be considered overly ambitious in setting a goal of 90 per cent."

Roger Lewis Strongly Supports Bond Drive



General Dynamics participates in the U. S. Savings Bonds Campaign annually because we feel this is an important program, not only to our nation but to General Dynamics as well. Last year, most of the divisions showed increased participation as a result, continuing our impressive improvement over the last few years. Nevertheless, when the campaign was over, there were approximately 30,000 employes who still were not signed up.

I would like to see General Dynamics listed among the very top leaders in 1968 and I know that you will support me in obtaining this objective. I assure you that I will follow the results of this campaign very closely and I urge your enthusiastic and effective cooperation.

Roger Lewis
President
General Dynamics

You Can Buy U.S. Savings Bonds Regularly By Investing as Little as 50 Cents a Week



ERROR-FREE—Don C. Prim, Electronics-SD general manager, congratulates K. R. Keef, foreman of REINS assembly area, for section's performance in error-free work for first quarter of 1968, as R. H. Nicholson, manager of quality control, and W. J. Hemmer, manager of manufacturing, look on.

For Third Time, REINS Assembly Earns Electronics ZD Honors

R. H. Nicholson, manager of quality control for Electronics-SD, announced that the REINS assembly area has won the quarterly Zero Defects banner for the second consecutive time.

The award, presented for reducing the number of defects in the first quarter of 1968, represents the third time the section has won the banner. It had previously been awarded to the REINS assembly area in the third quarter of 1966 and again in the last quarter of 1967.

General Manager Don C. Prim congratulated employes in the REINS assembly area for their performance in almost halving again the defects record they had set the previous quarter. During the last three months the section reduced defects from 8 per 100 manhours to 5. Defect reduction the previous quarter had been from 14.3 to 8 per 100 manhours.

Electronics-SD is producing REINS assemblies under a contract from North American Aviation Autonetics Division. REINS (Radar Equipment Inertial Navigation System) is a major part of the navigation and bombing system in the Navy's A5D Vigilante attack bomber, now in action in Viet Nam.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between May 1 and May 15.

Thirty-year: Dept. 001, S. R. Hickok; 027, E. L. Wallin; 761, J. W. Blaumeyer.

Twenty-five year: Dept. 002, J. F. Anderson; 045, C. O. Holba; 059, W. B. Moyer; 149, M. H. Parrish; 202, H. L. Williamson; 403, C. C. Pope; 509, E. D. Shannon, H. E. Wright; 532, A. L. Willson; 575, R. G. McGeary; 587, E. T. Hansard; 761, H. E. Stacey; 834, V. L. Shelton; 964, R. J. Graham; 966, L. E. Hanson.

Twenty-year: Dept. 001, G. Hardin, K. K. Jones; 002, G. R. Cheshire; 016, V. C. Cobb; 045, R. D. Coartney; 170, E. C. Lauer; 202, C. E. Stieringer; 400, P. A. Knowles; 521, G. C. Houk; 574, R. J. Blake; 759, F. A. Silvas; 833, C. E. Mabry; 966, W. C. Jungemann.

Fifteen-year: Dept. 001, P. E. See; 015, A. M. Clark, R. Hogue, J. D. Jones; 057, M. E. Powers; 130, P. Moore; 143, J. L. Winger; 144, P. J. Asprion Jr.; 170, J. Ragusa; 250, C. Bruns, H. Burch, W. L. Douglas; 400, C. J. Hebert, J. R. Van Cleave; 401, L. O. Smith Sr.; 452, E. L. Mudge; 544, H. H. Langer; 756, C. W. Lacy Jr., R. D. Renick; 759, J. W. Nesseim; 831, F. E. Munson; 832, F. Crivello; 950, J. D. Kring Jr.; 975, A. Payan; 985, J. M. Varner.

Ten-year: Dept. 015, R. J. Vento; 053, M. Grega; 144, H. Zimmerman; 191, M. S. Waddington; 194, B. J. Neal; 400, M. P. Beaver; 518, V. R. Hillman; 543, R. W. Squire; 756, G. M. Skomal; 810, W. Ryerson; 820, P. Nico; 951, W. S. Becker, T. R. Harwood, J. L. Whiteman; 952, R. E. Drowns; 954, G. H. Goff; 962, J. P. Masters; 979, L. G. Logan; 985, B. A. Chapman.

ELECTRONICS

Fifteen-year: Dept. 422, L. P. Bray.

Ten-year: Dept. 105, C. B. Hoff; 614, C. C. Smith; 921, E. F. Ziccardi.

Rider-Driver

CONVAIR

RIDE WANTED—From 547 El Monte Rd., El Cajon to Lindbergh Field. 8 a.m. to 4:45 p.m. shift. Call Helen Moore, ext. 464 LF or (home) 444-0934.

Personals

CONVAIR

We wish to express our sincere gratitude to all our Convair friends for their kind expressions of sympathy upon the death of our husband and father, Joseph Sima.

Mrs. Mildred Sima and daughters

Awards

Employe suggestion awards approved for the week ending April 19, 1968.

Dept. 149, G. W. Ash, $15.00; 250, D. E. Belchamber, $13.70; 143, V. M. Frankfather, $27.10; 144, H. M. Gallant, $17.60; 250, M. E. Nicolet, $13.70; 149, L. P. Raley Jr., $7.50; 733, D. J. Rogers, $218.30; 149, M. P. Taylor, $7.50; 250, W. C. White, $13.70.

Employee suggestion awards approved for the week ending April 26, 1968.

Dept. 574, E. J. Antus, $66.50; 979, L. K. Arnold, $15.00; 015, A. W. Beckman, $75.50; 507, R. L. Black, $56.00; 979, R. O. Boles, $25.50; 985, S. W. Botta, $41.00; 979, A. J. Boyd, $111.90; 953, J. B. Boylan, $15.00; 002, R. L. Brehl, $49.00; 763, R. L. Brown, $18.40; 015, S. Brown, $55.80 (two awards); 141, W. L. Colahan, $15.00; 015, L. Daniels, $15.00; 401, F. R. DeGreef, $15.00; 780, T. C. Eckles, $15.00; 401, J. H. Elms, $39.70, L. D. Erwin, $15.00.

Dept. 401, T. R. Field, $25.00; 715, J. Friel, $7.50; 149, J. A. George, $15.00; 015, L. R. Gibbs, $21.70; 761, P. E. Grasmick, $15.00; 756, R. B. Hayes, $15.00; 979, J. A. Jones, $15.00; 015, A. E. McFarland, $89.90; 144, S. C. McFarland, $15.50; 507, C. R. Olden, $56.00; 715, J. Pinson, $7.50; 002, E. R. Porras, $49.00; 005, J. R. Price, $15.00; 761, L. L. Ripley, $15.00; 130, H. Sandell, $15.00; 401, J. E. Schimka, $35.00; 953, L. B. Scott, $15.00; 985, R. J. Stano, $481.70; 566, H. N. Sylvester, $15.00; 733, E. L. Syrios, $50.00 (two awards); 015, F. T. Tarantino, $35.40; 140, S. Teggart, $15.00; 953, M. F. Weber, $69.50 (two awards).

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Monday May 20, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 14 auditorium, Tuesday May 21, 8 a.m. for first shift; today May 8, 4:30 p.m. for second shift.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF-STUDY—A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Invention Disclosures

DATAGRAPHICS

CORPEW—C. R., Dept. 8580, CRT Deflection System Providing Scan Magnification.

HAMANN—O. F., Dept. 8550, Information Recording System.

JOHNSON—D. L., Dept. 8520, Fast Recovery Power Time Delay.

JOHNSTON—B. H., Dept. 8560 (two patents), Face Seal and Bearing Cartridge; Knob, Roll Holding.

KNISLEY—B. C., Dept. 8624, Rapid Matrix Fabrication.

KONEN—J. J., Dept. 8120; M. K. MUIR, Dept. 8560, Information Retrieval System.

MUIR—M. K., Dept. 8560, Aperture Method of Film Coding.

TURNAGE—R. E., Dept. 8590, Computer Controlled 3D Display.

Deaths

SALISBURY—Burton (retired 1961), died April 16. Survivors include wife, Louise, and a son, Ronald.

BOYER—G. S., Dept. 979-3, died April 19. Survivors include wife, Martha.

RING—C. W., Dept. 999-0, died April 10. Survivors include son, Alan, and three daughters, Judy and Jeanne Ring and Mrs. Janet Melville.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N. Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

New KM Bus Service Begins

San Diego Transit Corp. last week inaugurated regular bus service from Pacific Beach to Convair division's Kearny Mesa plant and the adjacent KM industrial park.

The route "J" buses make 18 round trips on weekdays between 6 a.m. and 6:42 p.m. and 13 round trips on Saturdays. There is no service to KM on Sunday.

Buses begin the route at Felspar Street and Mission Boulevard in Pacific Beach and follow Garnet and Balboa Avenues, reaching the KM plant in about 30 minutes.

Three bus stops are located along the frontage road north of the main entrance and Gate 1 at the KM plant.

Buses then pass the CRA Clubhouse on Missile Road and along Ruffin Road and Balboa Avenue in the industrial park before terminating at Kearny Villa Road and Aero Drive.

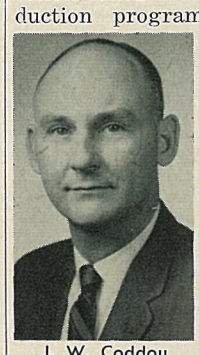
Transfer points for other bus routes are at Mission Boulevard and Bayard Street, Garnet Avenue and Ingraham Street, Balboa Avenue and Morena Boulevard, Balboa Avenue and Clairemont Drive, Balboa Avenue and Charger Boulevard and Kearny Villa Road and Aero Drive.

Fare from any stop on the route "J" line to the Kearny Mesa plant is one token or 30 cents, according to John Pippin of the Transit Corp. Four tokens can be purchased for $1.

Schedules containing a map and listing times for stops at 10 points along the route are available at the employe services office at KM.

Coddou Shifts To Quincy Post

Joseph W. Coddou, Convair division Atlas launch vehicles production program manager, has been named to the new post of manager of engineering administration at Quincy division, effective May 15.



J. W. Coddou

W. D. Daniel will succeed Coddou in the Convair post.

Coddou joined Convair in 1953 as a design engineer and in 1956 became a senior design engineer in the Model 7 (later Atlas) program. A former chief engineer for mechanical design of the Atlas SLV, Coddou has been responsible for production coordination and FACI of the uprated Atlas SLV-3A and SLV-3C as well as the predecessor SLV-3 booster. He also was program manager for the recently funded SLV-3X study. This responsibility is being assumed by Richard W. Keehn, Atlas SLV program manager, in acting capacity.

Daniel joined Convair as an aerodynamicist in 1947 and served as a dynamics and design engineer until assignment to the SLV program in 1962. He has been working with Coddou on Atlas production for more than a year.

Business Etiquette Course Offered

A second six-week course in "personal effectiveness and business etiquette" will be offered Wednesdays beginning May 29 at the CRA Clubhouse.

George Schmeidel, CRA business manager, said the course is offered to female employes and dependents for a bargain $12.50.

The course is designed to improve visual poise and manners and will include presentations on cosmetics, hair styling, grooming, apparel, figure control, voice enunciation and social amenities.

Reservations can be made by making a $5 deposit at CRA Clubhouse. Call ext. 1111 KM for information.





ENGINEERING HONORS—F. D. Applegate, left center, director of product design, presents engineering department's first quarter Convair Craftsmanship Achievement banner to C. K. Anderson, supervisor, for Dept. 574-0. Top photo shows employes at KM and lower photo those at LF. Four cost reduction certificates also were presented at ceremonies.

Data Processing and Evaluation Earns Award For Engineering

Engineering's data processing and evaluation Dept. 574-0, with employes and facilities at both Kearny Mesa and Lindbergh Field, has been awarded the Convair engineering department's Craftsmanship Achievement banner for outstanding efforts in work toward departmental goals during the first quarter of 1968.

F. D. Applegate, director of product design, presented the banner on behalf of E. R. Peterson, director of engineering, to C. K. Anderson, Dept. 574-0 supervisor, in ceremonies April 22 at both plants.

Applegate said engineering staff members reviewed the activity of 71 engineering groups and sections in working toward 275 separate goals in selecting the quarterly banner winner.

"The staff members' consensus was that you in data processing and evaluation performed best in keeping with the intent of the Craftsmanship program and we felt you should recieve recognition for this," he said.

"Your challenge was made more difficult in that you have work areas at both LF and KM and I commend you on your ability to overcome this disadvantage," he said.

Applegate commended the department for increasing its productivity and versatility, obtaining new business and outside data processing tasks, and for exceeding its goal for submitting ESs and CRPs.

Commendation certificates for a CRP that will save an estimated $49,512 this year also were presented by Applegate to C. K. Anderson, J. D. Anderson, M. D. Gorman and T. M. Wooster.

As a result of the proposal, Convair's Stromberg-Carlson 4020 recorder, the only one of its kind in the San Diego area, is being used by the Naval Underwater Warfare Center, Ryan, University of California at San Diego and Gulf General Atomic.

Two More Centaurs Ordered by NASA

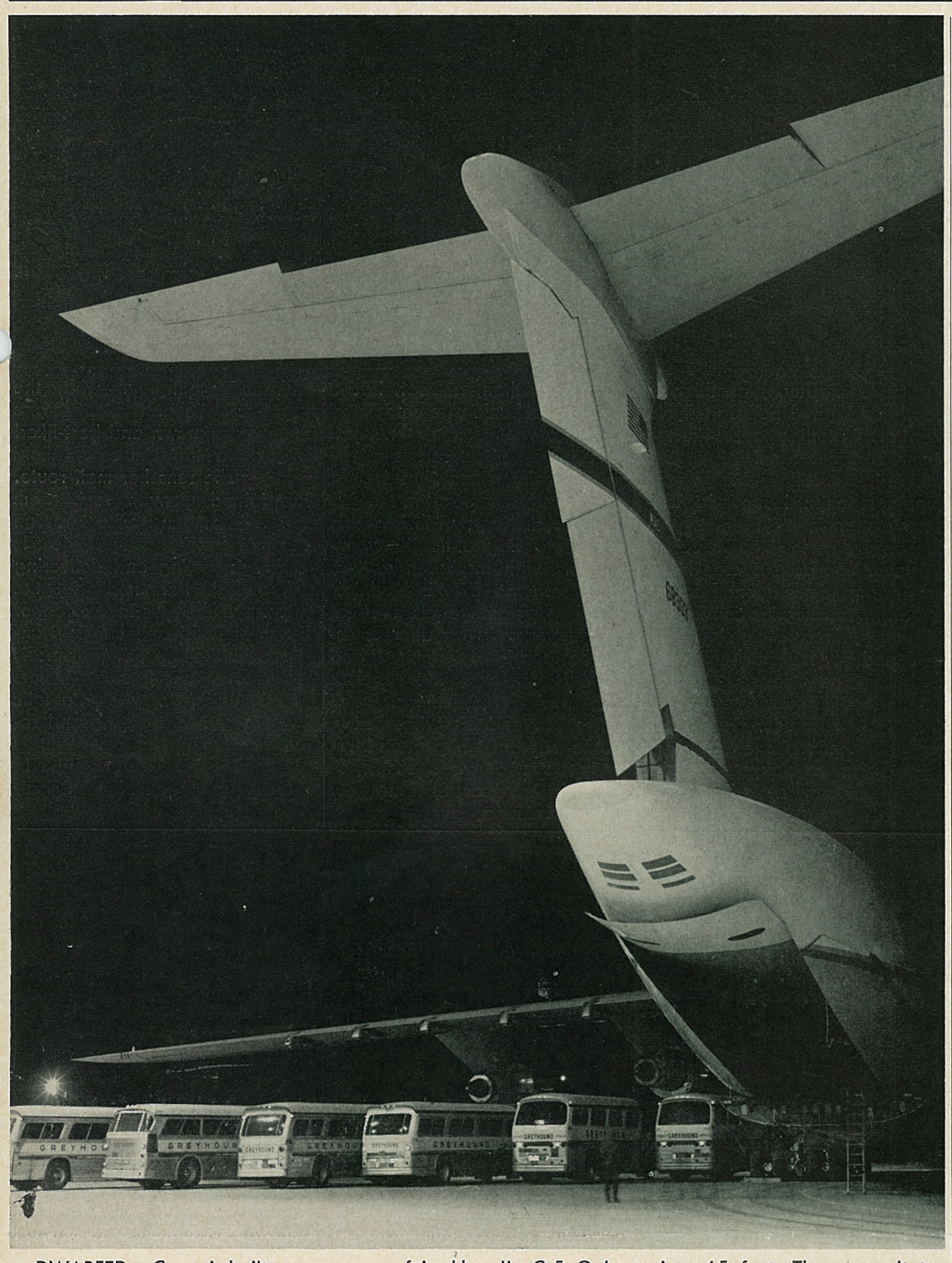
(Continued from Page 1)

plex 36 at Cape Kennedy.

The new Centaur contract brought total number ordered by NASA to 22. Fifteen have been flown. Others currently on order will be used for launch of an OAO later this year, two Application Technology Satellites, and two 1969 Mariner-Mars spacecraft.



A PARALLEL—What does a tree kangaroo have in common with U. S. Savings Bonds? Well, for one thing, there's multiplication. Even a little bond keeps on growing.



DWARFED—Convair-built empennage of Lockheed's C-5 Galaxy rises 65 feet. Those aren't toy buses on the ground, but the real thing.

Savings and Stock Plan 'Open' This Month For Any Changes

Enrollment in General Dynamics Savings and Stock Investment Plan is open this month for new members or changes in existing plans.

Employes who have established eligibility by being with the company a full year, can sign during May for membership to be effective for the quarter beginning July 1.

Present members of the Plan wishing to either change their investment option or percentage of savings can also make application this month. Forms are available at employe services offices.

Two More Achievement Scholarships Awarded

Two more outstanding Negro students have been selected for General Dynamics Achievement Scholarships.

They are Warren E. Shaw of New York City and Wesley A. Curry Jr. of Dallas, Texas.

The son of Mr. and Mrs. James Shaw of NYC, young Shaw will graduate soon from Brooklyn Technical High School and plans to attend M.I.T. this fall, seeking a career in aerospace engineering. In high school he was president of his class, 1965-66, captain of the "Math Help Squad," members of which coach other students less proficient in math, and received the Yale Club Award for academic achievement.

Young Curry is the son of Mr. and Mrs. Wesley A. Curry Sr. of Dallas and will graduate in June from Franklin D. Roosevelt High School. He plans to attend Stanford and major in engineering. During high school days he was president of the senior class, vice president of the Honor Society, member of the Student Council, Math Club and Engineering Club. He captained the school football team, playing end on both offense and defense.

Seven other General Dynamics Achievement scholars are presently in college. They are Dennis M. Young, Dartmouth, Philip H. Henderson, UCLA, Luther C. Davis, Cornell, Charles J. Creasy Jr., Cal Tech, Myles V. Lynk, Harvard, Wyncerlar C. Furlow, Southwestern State College, Ronald W. Sparrow, NYU.

GD Achievement Scholarships, administered under the National Achievement Scholarship Program, were first awarded in 1965. Preference is given to students who plan a career in a business field and who live in the vicinity of GD operations.

Japan Mfg. Group Visits Divisions

A group of Japanese industrialists on a world tour in quest of new cost reduction methods visited both Convair and Fort Worth divisions recently.

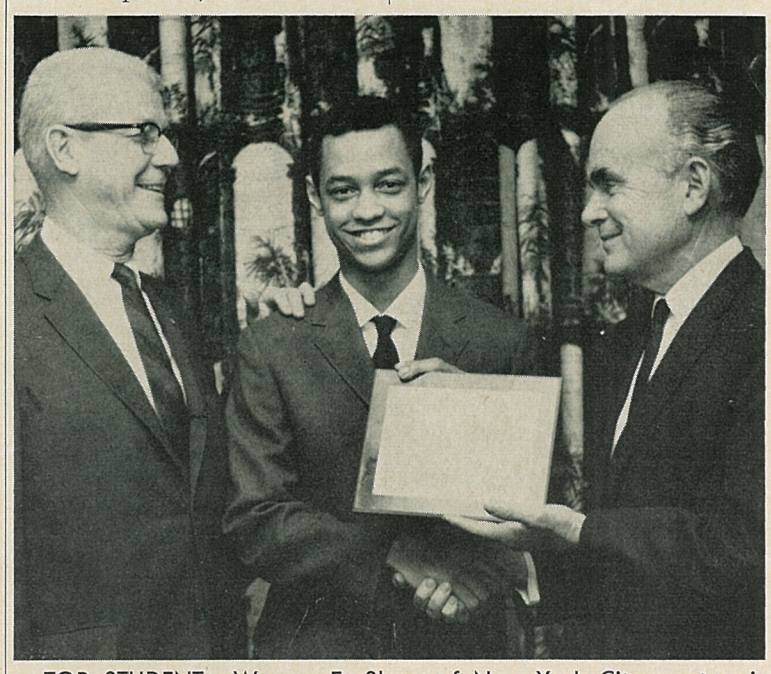
At Convair they were greeted by J. D. Milling, controller, and W. J. Ridge of Convair, president of the local Society of American Value Engineers chapter, and presentations were arranged.

At Fort Worth, C. W. Doyle, division cost reduction and value control administrator, hosted the visitors who heard presentations on Employe Suggestions, "Crew Loading" and conservation programs.

Pomona Division Has New Address

Pomona division of General Dynamics has a new address. The City of Pomona on May 1 changed the name of Fifth Avenue to West Mission Boulevard.

The division's new address is now 1675 West Mission Boulevard.



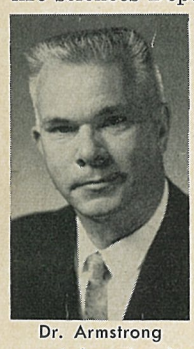
TOP STUDENT—Warren E. Shaw of New York City, center, is shown receiving Achievement Scholarship certificate from Algie A. Hendrix, right, Corporate vice president. At left is Tracy Brooks, Corporate manager of personnel placement.



SCHOLAR-ATHLETE—Wesley A. Curry Jr., left, received Achievement Scholarship from Howard Huggins, Fort Worth division chief of educational services. Center: Albert J. Williams, principal of Roosevelt High. Right: Larry Saunders, FW Dept. 3.

ACADEMY ELECTS DR. R. C. ARMSTRONG IN LIFE SCIENCES

Robert C. Armstrong, M.D., manager of Convair division's life sciences Dept. 592-0, has been elected a corresponding member of the life sciences section of the International Academy of Astronautics of the International Aeronautical Federation (IAF).



Dr. Armstrong

The Academy has 351 members from 26 countries in its basic sciences, engineering sciences and life sciences sections. The parent IAF is composed of 54 member professional societies in 34 countries.

Dr. Armstrong was one of three life sciences specialists from the United States elected to corresponding membership this year.

Dr. Armstrong served as a Convair design engineer from 1940 to 1946 then, following completion of medical school and military service, returned to Convair as flight surgeon in 1956. He has been in charge of the life sciences section since it was established in 1961.

He and C. D. King, a Dept. 592-0 engineering design specialist, presented a paper on "Life support systems on the moon" at the Academy's second lunar international laboratory symposium in 1966 in Madrid.

The 19th Congress of the IAF is scheduled Oct. 13-19 in New York City with the American Institute of Aeronautics and Astronautics as host society. Roger Lewis, president of General Dynamics, will be a member of the host committee.

Atlas Milestone Passed With 200th Launch at Vandenberg

The 200th Atlas launch from Vandenberg AFB was recorded April 27 when Atlas 78-E was launched down the Western Test Range from Complex A-3 in an ABRES (Advanced Ballistic Re-Entry Systems) mission.

Ted Bianchi of Dept. 985-1 was launch conductor. Grant L. Hansen, Convair vice president-launch vehicle programs, was among division personnel present for the liftoff.

The launch was the 357th of an Atlas and 78-E was the last E-series missile scheduled for modification and launch under Convair's 0023 contract with the Air Force Space and Missile Systems Organization.

* * *

Convair employes and Air Force personnel involved in launch of the 200th Atlas from Vandenberg AFB enjoyed a "launch party" and "awards" night April 29 at the Airman's Club on the base.

Key Air Force personnel present included Col. Arthur Neal, Col. R. C. Thompson, Lt. Col. Raymond Young and Maj. Harvey Taffet of the 6595th Aerospace Test Wing. A white launch crew jacket was presented to Roger Lynch, Convair base operations manager.

Logistics in Space Topic For Paper

Dr. C. B. Moore, manager of operations research and support requirements, and T. E. Peace, project operations analyst, of Fort Worth division will present a paper at a Society of Logistics Engineers symposium May 18 at Holiday Inn Central in Dallas.

Their topic will be "Space-station logistics: problems, analysis and management decision aids."

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

CHARLES F. FOSTER (1957) from Convair division to mfg. control, Pomona division; **ROBERT T. HAYDE** (1960) from Stromberg Datagraphics to Corporate International in sales administration; **CHARLES E. FABIAN** (1950) from Convair to Datagraphics as operations administration analyst; **LLOYD W. STANDLEY** (1935) from Convair to electronics project engineer, Electronics-SD; **FRED J. SCHULZ** (1956) from Convair to mfg. development engineering supervisor, Datagraphics; **MARVIN E. JENSEN** (1956) from Convair to Datagraphics as general accountant; **MORRIS C. BOWMAN** (1961) from Electronics-SD to packaging specialist, Datagraphics; **GARY L. WHALEY** (1955) from Convair to Electronics, Rochester; **JAMES L. DUNHAM** (1966) from Convair to Electric Boat; **JERAULD N. MATTSON** (1952) from Electronics-SD to Convair labor relations; **STEPHANIE KETTELKAMP** (1967) from Convair to engineer, Electronics-SD; **WILLIAM W. WILIMEK** from Canadair to Electronics-SD as senior quality control engineer.



Mollie Hashiguchi, secretary for office services Dept. 170-8 at Convair's Kearny Mesa plant, handles a myriad of inquiries and correspondence for the department's mail, central distribution, teletype, telephone and records retention functions. A native San Diegan, she has been with Convair eight years. She and her husband, Henry, enjoy bowling and took first place two years in a Plaza Bowl league. They live in East San Diego and have two children — Donna, a freshman at UCLA, and a son, Richard, a junior at Crawford High. Mollie met an older brother, Yozo Uyeji, for the first time when she visited Japan in 1939.



Joe Rodriguez, crew chief in structures at the Convair Service Center, is pictured in the act of replacing anti-icing boots on a leading edge stabilizer for a Continental Airlines plane in modification. Rodriguez joined Convair in 1940 in structures on the B-24 and PBY programs. After a year in the Army during World War II he rejoined Convair in 1946. He went to Astronautics in 1962 and was based at Vandenberg AFB in instrumentation until 3½ years ago when he transferred to the Service Center. He and his wife Priscilla live in Mission Village near the stadium. Of their three sons, only one is still home.



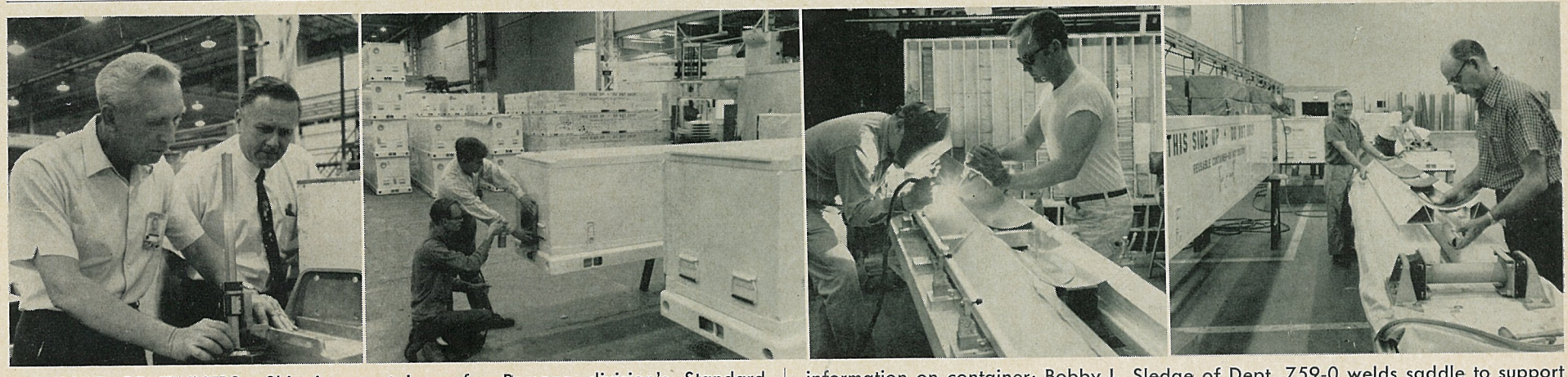
Charles Caffey, assembler in Dept. 045 at Lindbergh Field plant, is installing a rib in the lower surface panel of a C-5 horizontal stabilizer before the huge component is moved to another station in the Bldg. 2 production area. He joined Convair 27 years ago as a riveter in the B-24 wing department. Caffey was with Astronautics division 10 years at Sycamore Canyon as a field and service mechanic during Atlas and Centaur tests. He returned to LF plant two years ago in C-141 assembly. He and his wife, Anna, have two children, a married daughter, and a son, Robert, now attending Mesa College.



M. J. Shelton, a Dept. 756-0 test lab mechanic who completed 20 years with Convair on April 9, assists with test setups at the division's Test Sites B and D at Sycamore Canyon and in the gas flow lab at Kearny Mesa. He is shown covering a liquid hydrogen line with insulation at Site B. Before start of the Model 7 (Atlas) program, Shelton spent several years as an aircraft assembler and in experimental and other departments on 240, 340, B-36 and F-102 aircraft programs. He and his wife, Daisy, live in Normal Heights and recently became grandparents. A native of Arkansas, Shelton grew up in Oklahoma.



Frances Stingley, with the pleasant smile and voice, is one of the best-known and best-liked persons in the Lindbergh Field plant as she runs her mail route. She joined Convair mail room first in 1942, and except for an absence of five years, 1946-51, has been sorting and delivering mail all of her time with the company. She was in the former Corporate Offices in Bldg. 19 until they were moved. Frances is one of the most active workers in her church, St. Jude's Catholic Church, and is a past grand regent of the Catholic Daughters of America. Her husband is in civil service at the Naval Repair Base.



MISSILE CONTAINERS—Shipping containers for Pomona division's Standard ARM missiles are being outfitted with special shock-absorbing systems at Convair's Kearny Mesa plant. Photos, from left: D. R. MacGregor looking on as Robert S. Sutton, Dept. 143-1 chief machined parts inspector, checks restraint block and shock mount bracket; John Nieboer and Daniel J. Rogers of Dept. 733-0 stenciling information on container; Bobby L. Sledge of Dept. 759-0 welds saddle to support assembly as metal fitter Earl Dodson assists; assembly being completed by E. G. Brekke and L. C. Palmer of Dept. 761-0 as inspector A. A. Ames of Dept. 143-1 works in background. Standard ARM is air-launched and homes on radiation emitted by ground radar.

'Anti-Shock' Systems Protect Missiles During Shipment

Convair division is outfitting shipping crates with special shock-mitigation systems for use in shipment of the Standard ARM (Anti-radiation missiles) manufactured by Pomona division.

Castings, support assemblies, restraint blocks and brackets are machined and drilled and saddles on which the missiles are placed are welded and the entire mechanism assembled at the Kearny Mesa factory.

Strong rubber shock-absorbers included in the assemblies will absorb horizontal impacts to which the missile may be subjected during shipment and handling. Vertical impact forces from shock or "bouncing" are absorbed by large sections of compressable high-density styrene foam above and below the missile assembly.

Heavy plastic bags, bolted into the crates with the shock mounts, and small bags of a desicant chemical drying agent will provide moisture control under adverse weather conditions during shipment and storage.

The basic 17-foot-long reusable plywood and aluminum containers are shipped to the Kearny Mesa factory from the Zero Manufacturing Co. in Burbank, Calif.

Convair's work in supplying the shock-mitigation systems for the containers was implemented initially by D. R. MacGregor of Dept. 403-1 and is now under the direction of George Branch of Dept. 701-0.

Machining operations are under the supervision of J. E. Merk of Dept. 761-0, metal fabrication under M. M. Goodhart of Dept. 732-0 and welding and assembly operations under H. W. Anderson of Dept. 731-0.

ASQC Section Sets May 13 Meeting Date

H. W. Call, manager of pre-production engineering for Electralab Electronics Corp., will talk at a dinner meeting of the San Diego section, ASQC at 6:30 p.m. May 13 in the Bronze Room, La Mesa.

Tickets are available through the following ASQC boosters: Electronics-SD — R. C. Mansell; LF — Glenn Gibbons; Air Force Plant 19 — G. H. Townsend; KM — R. E. Lowe, R. N. Dunkel, Fred Lay, C. L. Marks, G. L. Williams, W. L. Burkhalter, Charles Jones.

Datagraphics Plans 'Padre Night' May 24

Stromberg Datagraphics' recreation committee is sponsoring a "Padre Night" at the San Diego Stadium Friday, May 24 for Datagraphics employes, their families and friends.

One thousand seats will be available. Tickets normally selling for $2 are $1 and are available in the industrial relations offices at the Hancock St., Mission Valley and El Cajon plants.

Other interested GD employes are also invited.

Four Convair Men Now SAWE Officers

Four Convair division employes have been elected to offices in the San Diego chapter of the Society of Aeronautical Weight Engineers (SAWE).

B. H. Oman of Dept. 588-0 is president, John Niesley of Dept. 952-5 is vice president, Charles E. McCoy of Dept. 588-0 is secretary, and Edward E. Hood of Dept. 588-0 is treasurer.

Noted Lecturer To Address Club

Dr. Kenneth McFarland of Topeka, Kan., consultant and noted guest lecturer, will address a Convair Management Club meeting at 6:30 p.m. May 15 in the Caribbean Room of El Cortez Hotel.

A career educator for 24 years and former city schools superintendent in Topeka, McFarland is rated as America's top public speaker by the U. S. Chamber of Commerce.

McFarland's address will include an analysis of the importance of salesmanship in today's competitive economy and a discussion of the need for increased emphasis on advertising and salesmanship aspects of marketing.

The April meeting is being sponsored by the controller's department. McFarland will be introduced by John Milling, division controller.

Planning committee is composed of John Jodka (chairman), D. R. Pardee, J. C. Cannady, Ralph Bullock, E. D. Heller, R. E. Carlson, F. M. Wynkoop, M. W. Rickling and J. F. Scanlon.

Results of the Management Club election will be announced.

Tickets are $3.25 and can be obtained from club boosters. A no-host social hour is scheduled for 5:30 p.m. with dinner at 6:30.

Hardison on Leave To Run For Office

James Hardison, support contracts, Dept. 113-0, is on leave of absence, campaigning as a candidate for San Diego County Tax Collector in the June 4 election.

Hardison, who has been with Convair 18 years, is a graduate of California Western University.

County Students to Compete In Annual Math Contest

More than 200 students from 46 city, county and independent high schools in San Diego County competed Saturday in the 11th annual Honors Math Contest sponsored by Convair division and San Diego State College.

Teams of six students from second semester honors math or equivalent courses were entered by many of the schools in the three contest divisions. Schools without honors math or equivalent classes had students competing for individual awards.

Contest winners will be named and awards presented tomorrow evening (May 9) at a dinner meeting in Hotel del Coronado.

Dr. Walter H. Munk, director of the La Jolla Laboratories of the University of California's Institute of Geophysics and Planetary Physics, will be guest speaker.

Grand prize awards of $100 each will be presented to highest scoring students in each of the three divisions. Trophies will be presented to the three students with highest test scores and to the school having the highest total for five best scores in each division.

A special award will be presented to the teacher and each member of the team scoring highest in the contest. The three highest scoring students from each school within each division will receive additional awards.

Each of the participating students and their teachers and principals will be guests of Convair for the banquet. Parents of the students will join the group for the awards presentation ceremony.

Daughter to Enter School of Medicine

A Convair senior calibration technician's daughter who will be entering medical school in September has been awarded a $750 San Diego County Heart Association grant for research studies this summer at the San Diego Zoo hospital laboratory.

She is Ikonija "Connie" Sekulovich, 21, daughter of Vojislav Sekulovich of Convair's Dept. 142-1.

Miss Sekulovich will be graduated with honors next month from the University of California in Riverside and will enter the University of California at San Diego's first medical school class.

"Connie" isn't the only Sekulovich daughter to receive scholastic honors. A younger sister, Marija, also a student at the Riverside campus, received three scholarships and four other awards when she was graduated from Helix High School in 1966.

Beginner Dancing Class Will Start

A beginners class in ballroom dancing will start May 20 and will continue each Monday night for 12 weeks from 7:30 to 9:30 p.m. at CRA Clubhouse. Cost of the series is $18.

The class will be instructed by Bob McGlade and will cover basic steps in fox trot, waltz, swing, cha-cha, rhumba, tango and samba.

Registration will be held at the first session. For further information call Royce Riggan at 420-3775.

Good Water from Bad: A Report from General Dynamics

When is a water shortage not a water shortage?

Most of the time.

Except for the relatively small areas of the earth covered with desert, water supplies in lakes, rivers, and underground tables would be more than ample for the world's population—if it were all fit to drink.

In many cases it is too brackish; its heavy concentration of dissolved salts makes it either dangerous or just plain bad tasting. "Salts" are not just common table salt (sodium chloride); a dissolved salt, by definition, is a solid substance that is soluble in water.

Hundreds of thousands of families already use double water systems. Available water from the tap is used for general cleaning. For drinking and cooking, they buy bottled water.

Conventional treatment systems can remove most of the solids, such as those that come, say, from the wastes and sewage that pollute so many of the nation's rivers. But to get rid of the dissolved salts—to desalinate—subtler techniques are required. One is reverse osmosis.

Osmosis, forward and reverse:

Since 1962, General Dynamics has used reverse osmosis to desalinate water, mainly under contract to the Office of Saline Water of the Department of the Interior.

Osmosis is a phenomenon that occurs naturally whenever a dilute liquid (such as fresh water) and a concentrated liquid (such as salt water) are separated only by a semipermeable material—that is, one which selectively permits one kind of molecule to pass through it, but not another kind.

Under ordinary conditions, fresh "pure" water would diffuse through such a membrane material into an adjacent "impure" saline solution.

But apply pressure to the "impure" water and reverse osmosis takes place; the flow through the membrane goes the opposite way.

Water molecules from the salty solution are forced through the membrane into the fresh water. The "selective" permeability of the material acts as an effective barrier to the passage of salt molecules.

The mysterious membrane:

The heart of the process is a membrane only five thousandths of an inch thick. This membrane is basically made of cellulose acetate in a transparent film form resembling household plastic wrap.

It had been known for some time that fresh water passed readily through certain of these membranes, but dissolved salts and other impurities did not. Nobody knew quite why. An assumption was that the membrane was a very fine mechanical filter—water molecules were small enough to seep through the holes in the film, but salt molecules were too large.

General Dynamics' scientists found that the cellulose acetate membrane, thin though it is, has two different layers.

A spongy porous material that accounts for 99.8 percent of the membrane's thickness is mainly supportive, and lets both water and dissolved salts through.

The actual stopper was the second layer, only ten-millionths of an inch thick. This thin second layer is nonporous. Its action is molecular and chemical rather than physical. It *absorbs* water molecules—absorbs them more readily than the salt molecules, allowing the absorbed water molecules to move through the membrane easily and to reappear on the "pure" low pressure side. Less than five percent of the salt molecules get through.

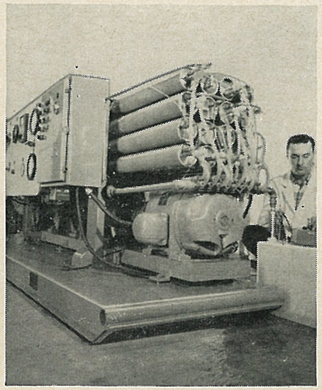
The same process that keeps out dissolved salts also holds back other waste matter, even bacteria, and—some researchers suspect—viruses.

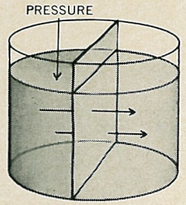
General Dynamics reverse osmosis units are built up of modules which can contain up to 300 square feet of membrane per cubic foot.

Reverse osmosis units are already being built in a variety of sizes. A single small module can satisfy a family's daily drinking water needs. By linking enough modules, larger units process thousands of gallons a day. And still bigger combinations will be able to process hundreds of thousands—or even millions—of gallons of water daily.

Some conventional forms of desalination require large installations and large heat sources to make steam for an essentially distillation process. Reverse osmosis plants can be compact because the water remains in its original liquid state throughout the process.

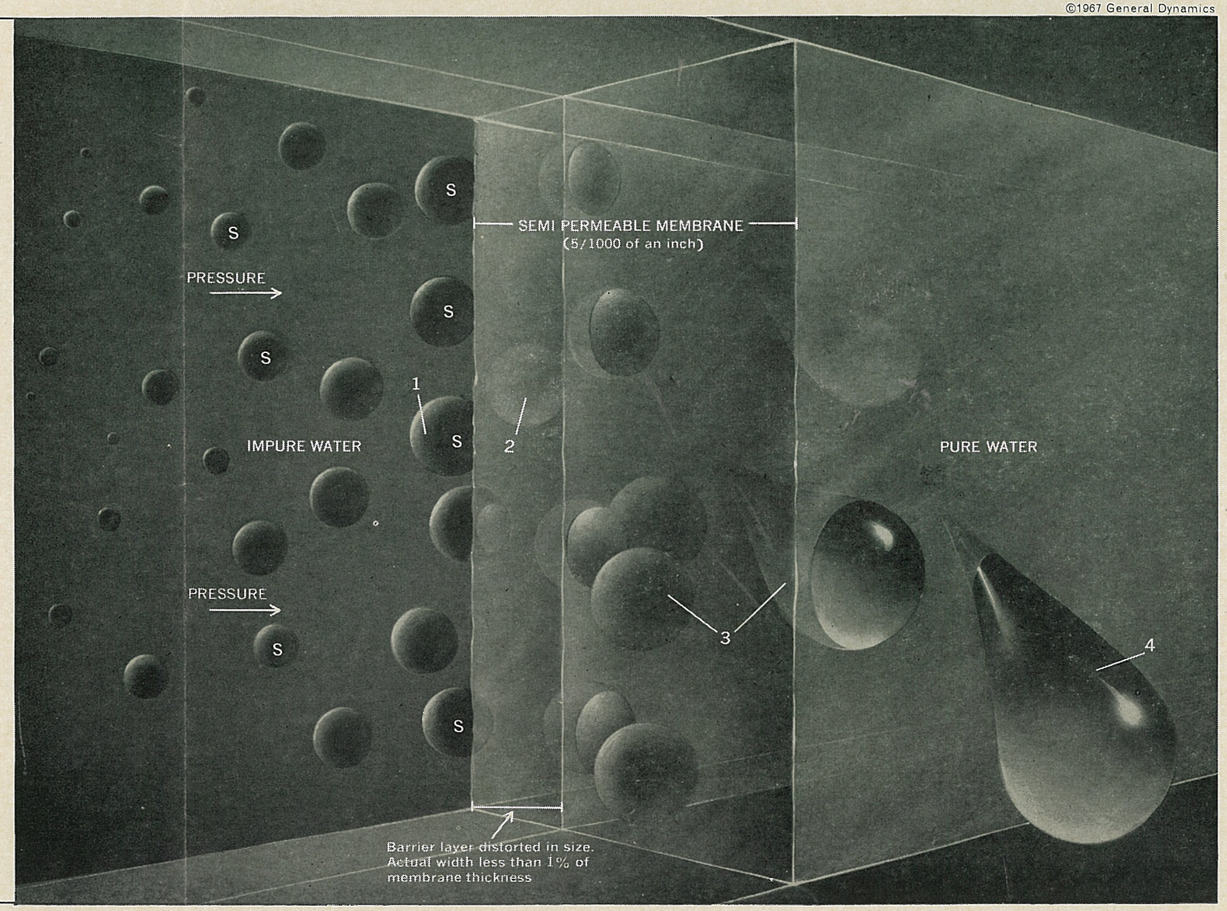
Below: water flow from 10,000 gallons-per-day reverse osmosis unit is checked by General Dynamics engineers before unit is shipped.





The Phenomenon of Reverse Osmosis

Normally, water from a dilute solution will flow through a semipermeable membrane towards a concentrated solution. Reverse osmosis takes place when pressure is applied to the concentrated solution and forces water in the opposite direction. **1.** Salt molecules (marked "S") have little chemical affinity with membrane molecules. They tend to be rejected, in spite of the applied pressure, by the membrane barrier. **2.** Water molecules mingle intimately with membrane molecules in the ultra-thin layer of the membrane—the "diffusion region." This union and diffusion is molecular; it is not a physical filtering of water. **3.** When the water molecules pass through the ultra-thin diffusion layer into the porous supportive layer of the membrane, they liquefy and become water again. **4.** Pure water droplets continue to seep through the membrane and emerge on the low pressure side.



Ordinary electric power operates a pressure pump. Simplicity of design permits a system to operate virtually unattended for long periods between maintenance checks.

From rivers and mines:

The General Dynamics units have been test-operated under a variety of local water conditions: on rivers where the water was polluted both with industrial wastes and concentrations of salts from ocean tides, and in industrial applications such as coal mines.

The drainage of acid water from mines presents a major pollution problem. Sulphuric acid in the mine water dissolves minerals containing iron, calcium, and magnesium, creating a whole complex of salts that become a hazard to fish, wildlife, and municipal water supplies. The reverse osmosis experiments held back most of the heavy concentrations of dissolved salts from the mine water and produced high quality fresh water.

In factory use, reverse osmosis units in combination with conventional filters (to eliminate gross physical particles), could clean used factory waste water before it re-enters rivers, with some portion of the freshly processed clean water recirculated for reuse by the factory.

Reverse reverse:

Reverse osmosis has another potentially valuable and almost opposite use: water *extraction*.

For example, water is traditionally boiled out of maple sap to make maple syrup. This is an expensive and time-consuming process. Pilot tests by the Department of Agriculture indicate that a reverse osmosis unit can achieve the same result. In this case, the useful product is what is left after the water is removed.

Theoretically, the extraction principle can be applied to many products, including chemicals and pharmaceuticals, that now require elaborate processing to be concentrated or made water-free. Research is creating a "family" of membranes for a variety of specific jobs.

Certainly fresh water produced by reverse osmosis, or any desalination process, is more expensive than water from local natural sources. Yet in many areas where good water is a scarce and expensive resource, the reverse osmosis process may already be economic.

General Dynamics is a company of scientists, engineers and skilled workers whose interests cover every major field of technology, and who produce: aircraft; marine, space and missile systems; tactical support equipment; nuclear, electronic, and communications systems; machinery; building supplies; coal, gases.

Reprints of this series are available.

GENERAL DYNAMICS

One Rockefeller Plaza, New York, New York 10020

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Reproduced on this page is another in a series of advertisements, placed by General Dynamics recently in a number of prominent national publications.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Continued from Page 1)

mal shift hours for a particular section clearly benefits the total division operations, permission has been granted and will continue to be.

★ ★ ★

Q — Why can't our library order books for employes at reduced prices?

A — Employes may obtain special postal cards (at either KM or LF library) for ordering books from a dealer, entitling them to discounts ranging from 10 to 20 per cent. Assuming the book requested is in print, the dealer sends it to the employe's home with an invoice which can be paid by check. In most cases the Convair library can advise in advance the approximate cost.

★ ★ ★

Q — Why do Employe Suggestions at ETR have to be submitted through San Diego to have a number assigned and then returned to ETR for processing? It takes from 14 to 30 days just to get a number.

A — ESs originating at ETR must be processed through San Diego to maintain necessary control. However, as a result of your question the system is being changed so that in future all ESs originating at ETR will be mailed by the originator to San Diego, thereby eliminating processing delays at ETR.

★ ★ ★

Q — Has management ever considered programmed music for Kearny Mesa?

A — Yes, but each time the proposal has been discarded, principally because of costs involved in installing, maintenance and programming.

★ ★ ★

Q — Is it possible for Convair to withhold a small amount from our checks each week to cover state income tax?

A — There is no legal method by which Convair can withhold funds earmarked for ultimate payment of state income tax. An alternative, however, would be to use the Industrial Allotment Plan. Under this plan, Convair deducts from paychecks the sum requested and deposits it in one of three banks (whichever you choose) in a form of savings account from which funds can be withdrawn as needed. Forms authorizing deductions are available at employe services.

★ ★ ★

Q — I am 60 and have been with Convair 15 years. If I take early retirement (meaning that my retirement benefits would commence when I reach 65) am I entitled to General Dynamics' contributions to the Savings and Stock Investment Plan paid to my account?

A — Yes. Both your contributions and those of General Dynamics are paid to you shortly after your active employment ends.

★ ★ ★

Q — Now that women can legally work up to ten hours per shift, the women in Bldg. 33 at KM sometimes are asked to work overtime. Since no advance notice is given, we park in our usual area, but at three in the morning, when we get off, the gate is locked and we must walk to the main gate and then all the way back along the fence to our cars. It is frightening as well as a long walk. I don't see why a guard couldn't ride out and open the gate for us.

A — Security usually will be able to open Gate 10 under such circumstances, though infrequently a guard will not be available. Your supervision should make the request to guard supervision and every effort will be made to honor such requests.

★ ★ ★

Q — Why are some hourly and non-supervisory employes, without physical disability, permitted to use laminated parking decals assigned to their office to park in Lot 6 at LF?

A — Laminated passes are issued to departments for use by employes who must travel between plants to perform their jobs. It is the supervisor's responsibility to see that the privilege is not abused.

★ ★ ★

Q — Why are some hourly and non-supervisory personnel permitted to park in the Employe Applicant lot?

A — Thank you for bringing attention to this. The practice has been stopped.

Seven Convair Men Draw Key Roles For Weight Engineers' Meet in New Orleans

Seven Convair division men will hold key roles in the Society of Aeronautical Weight Engineers (SAWE) annual conference next week in New Orleans, La.

Ray L. Benson of Dept. 588-0 will chair a "weight growth" workshop and Harold L. Jensen of Dept. 988-2 will chair a "materials" session. Joseph E. Mullen and Charles E. Kohler, both of Dept. 986-5, will be members of an "uncertainties" panel.

Papers will be presented on "Weight control of finished parts by dynamic etching" by F. L. Dohm and E. E. Benson Jr. of Dept. 588-0, "The role of systems engineering principles in mass properties data requirements" by Jensen, and "The contribution of an inadequate allowance for non-optimum factors to weight growth" by I. L. McWhorter Jr. of Dept. 588-0.

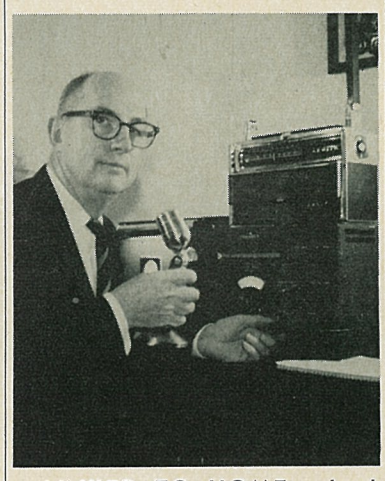
Down Under

Dimeless 'Call' Link to States

Although Jack Phelan is stationed half-way around the world (in Australia) he manages to talk to friends at home nearly every week and it doesn't cost him a dime to "call."

Phelan, General Dynamics representative at Canberra, Australia, is a short wave "ham" and an inveterate GD booster (his call letters are VK1GD).

Around noon on Saturdays Phelan warms up his transmitter (it is still Friday evening back in the states), and his voice is often picked up by friends in San Diego.



LINKED TO HOME — Jack Phelan, GD rep in Australia, shown with radio equipment that links him with other GD "hams."

"I used to talk to Jack regularly until I started to work so much overtime," said John Gehman of Electronics-San Diego. "But I haven't been able to get home in time lately to talk to him."

Phelan is on the air nearly every Friday and Saturday evening at 6 o'clock Pacific Standard Time, broadcasting on 21.320 megacycles, and would like to talk to other General Dynamics "hams." He also occasionally works the 28 megacycle band, and is on 14 megacycles some mornings.

Bus Response Good, But More Needed

Considerable interest has been shown in express bus service to Lindbergh Field from various parts of the city (**GD/NEWS, April 24**), but not yet quite enough to start service.

"So far most of the phone calls have come from people living in El Cajon and Clairemont," said Lou Braun of employe services at LF.

"If there are others in these two areas as well as in any other parts of the city interested in this service, please call extension 1931 at Lindbergh Field. If more people show an interest in this service, we have a better chance of getting it. "Already we almost have enough to justify an El Cajon bus."

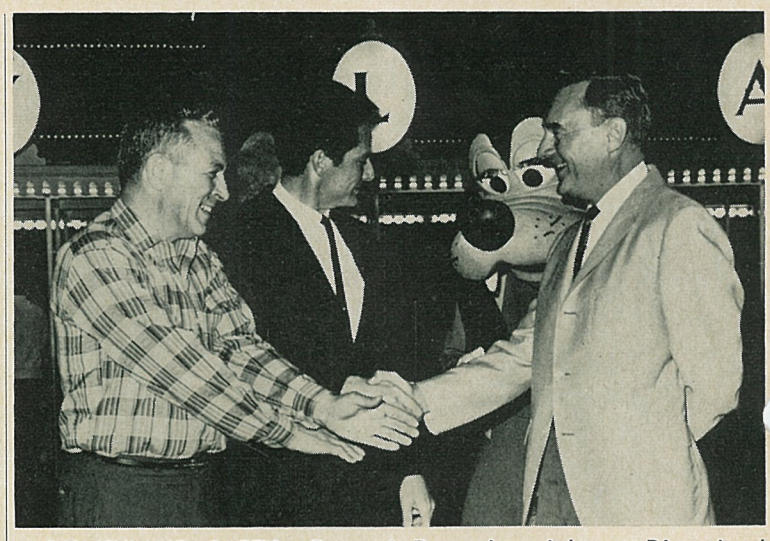
SD State Visitors Tour Plant at KM

M. J. Capp, dean, and several members of the faculty of the school of engineering at San Diego State College visited Convair division's Kearny Mesa plant last month for a plant tour and series of briefings arranged by the San Diego chapter of the American Society for Quality Control.

L. I. Medlock, director of reliability control, welcomed the group. Briefings during the tour were given by W. T. Hollar, Frank Gelles, Ben Pesta, D. K. Krosch, Frank Hinton, S. L. Wallace, S. W. Cohen, William Kirk, George Koulaxizes and L. A. Milton.

STUDENTS TOUR MESA PLANT

Members of the San Diego State College student chapter of the American Institute of Aeronautics and Astronautics toured Convair's KM plant April 30 as guests of the division and Convair Management Club.



DISNEYLAND PARTY—General Dynamics night at Disneyland was attended by 15,800. Greg Bean, Disneyland administrator, and "Goofy" congratulate Sam Catalano, left, ticket sales chairman, and Don Evanson, right, planning committee chairman for Convair Management Club, on success of event.

San Diego Section of ASQC Voted National Award as Best in U.S.

The San Diego section of the American Society for Quality Control last night (May 7) was awarded the national ASQC "Saddoris Award" for having been judged best ASQC section in the nation during the past year.

John Mraz, section president and chief of the quality assurance engineering branch of the DCAS plant representative's office at Kearny Mesa, received the award at the 22nd annual ASQC Technical Conference in Philadelphia.

Among Convair personnel present were L. I. Medlock, director of reliability control for the division and ASQC Western Regional Councilman, and C. L. Amaral, Saddoris Award chairman for the local section.

The annual award is presented to the section accumulating greatest number of points for educational programs, meetings and special activities, membership, meeting and conference attendance, financial records, publications and publicity.

The San Diego ASQC section was chartered in 1952 and now has more than 300 members.

Two Convair division representatives are giving presentations at the national ASQC conference, W. E. Magnuson and H. H. Mishler.

Six-Week Computer Course Scheduled

A six-week University of California Extension course in "Introduction to information processing and computer programming" will be given at KM plant from 5 to 8 p.m. Tuesdays and Thursdays beginning June 25.

Frederick D. Schwend, data systems application specialist in Dept. 170-1, will instruct.

Various types of processing equipment and concepts such as procedural logic, programs and programming, machine processibility, data formating, and computer memories and storage will be covered. Each student will write and "debug" a computer program.

Cost will be $50, which may be reimbursed through tuition refund. Additional information and enrollment forms may be obtained by phoning David Chigos, ext. 1931 KM.

Except for July 4, classes will be held Tuesdays and Thursdays from June 25 through Aug. 6 in Bldg. 17, Rm. 7, KM.

Sea World Offers Ticket Reduction

"Convair Days at Sea World" have been scheduled June 8 and 9 under sponsorship of CRA and Convair Management Club.

Reduced-price tickets can be purchased beginning tomorrow (May 9) at all CRA outlets, the CRA Clubhouse or club boosters.

Prices will be $1.75 for adults and 75 cents for children 5 through 17. Children under 5 will be admitted free. (Regular prices are $2.75 for adults, $1.50 for juniors 13 through 17 years old and 75 cents for children.)

All tickets for the "Convair Days" will be dated and must be purchased for the date to be used.

Bible Study Held At Lunch Breaks

"Lunch break" Bible study and discussion sessions are being held each Tuesday and Thursday at the Kearny Mesa plant.

Sessions are non-denominational with local members of the clergy providing leadership.

Areas and times are: Bldg. 33, room 12, 11-11:25 a.m.; Bldg. 1, 2nd floor, conference room (southwest corner), 11:30-12 noon and 12:10-12:45 p.m.



INVENTORS—Max K. Muir, senior electronics engineer (left), and Jacob J. Konen, product manager, both of Stromberg Datagraphics, observe readout of new information retrieval system for which they received joint patent. New system uses multiple images superimposed on color film, separated at readout by color filters, and will greatly reduce storage space need for microfilm files.



LEADING WIVES—New officers of Convair Wives Club admiring club's "Woman of Year" trophy, from left, are Mrs. Paul W. Brock, president; Mrs. Robert Browning, first vice president; Mrs. L. H. Allen, second vice president; Mrs. Walter Dibblee, secretary; Mrs. A. B. Ellsworth, treasurer. Mrs. Browning received trophy for devoting more than 400 hours to club activity last year.

Mrs. Paul Brock Installed As President of Wives Club

Mrs. Paul W. Brock has been installed as president of the Convair Wives Club. Other officers are Mrs. Robert Browning, first vice president; Mrs. L. H. Allen, second vice president; Mrs. Walter Dibblee, secretary, and Mrs. A. B. Ellsworth, treasurer.

The club's "Woman of the Year" award was presented to Mrs. Browning.

Membership in the club is open to wives of all Convair employes. Information can be obtained by calling Mrs. Brock, 583-1474, or any of the other new officers.

The wives' next monthly luncheon meeting is scheduled next Wednesday (May 15) in the 7 Inn's restaurant in Mission Valley with Mrs. W. T. Borden and Mrs. C. R. Blust as hostesses. Reservations can be made with Mrs. Allen, 583-2868, or Mrs. L. F. Klepach, 264-1013, by 5 p.m. Monday.

Pot-luck luncheon meetings are held the fourth Wednesday each month in CRA Clubhouse. Reservations are not required and wives attending are asked to bring a covered dish and their own table service. Members of the group knit for charitable organizations or work on their own handiwork following luncheon.

Philanthropic work is done by the club for agencies such as the Salvation Army, Edgemoor Geriatics Hospital, Children's Hospital, Blind Recreation Center and City Rescue Mission.

Women Golfers Tour Cottonwood Course

Last month's GD Women's Golf Club tourney at Cottonwood was highlighted by a "Champ of Champs" flight with Iris Oster taking Flight A honors and Betty Jackson Flight B.

Winners of trophies during the past nine months of club competition participated in the special flight. Mabel Dunn was A Flight runner-up and Edith Mellett, Flight B.

In regular monthly competition, trophies for low net honors went to Rose Hubler and Iris Oster.

Sam Snead's Tecolote Canyon Course has been selected for the club's next event May 11. All General Dynamics women employes and their dependents are invited to participate in women's golf activities. Call Freda Magargal at KM ext. 2933 or Doris Parker, ext. 583 LF for information.

Record 221 Golfers Compete in Tourney

A record 221 golfers competed in the CRA Golf Club's April tournament at the San Carlos course. Richard V. Marlowe of Convair's Dept. 197-0 won the tournament with a net 62.

Other winners and their net scores were: 1st flight—Al Bauer, 64, Jack Weaver, 65; 2nd flight—Cliff Gordon, 66; Walsh Vance, 67; 3rd flight—M. J. Aleshire and Ray Soper, 64; 4th flight—Aaron Roberts, 68, Everett Fountain, 69; 5th flight—Don Campbell, 63, Frank Jenkins, 70; 6th flight — Gerald Davis and Al Allison, 71; 7th flight—John O'Toole, 63, Bill Fowler, 69; 8th flight—R. R. Brown, 64, H. W. Buckner, 68.

Roland Schneider Dominates Shoot, Taking Two Firsts

Roland Schneider dominated CRA Pistol Club action by taking firsts in both .22 Police master class and .22 Short National matches April 28 at the San Diego Police Pistol Range.

Jim Halfacre's 286 followed Schneider's winning 290 score in master class. In the expert division Ernie Kampmann eked out a 274 to 273 victory over Dick Sutton.

Schneider's 283 led Short National competition over Warren Walker with 272 and Halfacre with 271. Kampmann fired 266 to round out match scoring.

Next shoot is May 12, 9:15 a.m. at San Diego Police Pistol Range, Federal Blvd. and Home Ave. For information on club activities call Warren Walker (days) at ext. 1104 LF or Roland Schneider (nights) LF ext. 1564.

* * *

The Convair pistol team has been selected on the basis of total aggregate Short National scores for the first quarter as follows:

Roland Schneider, 810; Warren Walker, 765; Jim Halfacre, 764 and Ernie Kampmann, 742.

Corsages Offered For Mother's Day

Cymbidium orchid corsages are being offered by members of the CRA Garden Club for Mother's Day, May 12.

Flowers are available in a variety of colors including white, blush, pink, yellow, lavender, maroon, yellow with red lip and white with colored or spotted lip. Decorative ribbons may either match the color of the bloom or contrast.

Single flowers are $2; double $2.50 and triple $3.

Orders may be placed with any member of the Garden Club or by phoning Everett Henderson at 274-1784.

Steppers Bus to SD For Joint Dancing

Forty-four members of PRA Convariety Steppers traveled by bus to San Diego for square dancing with Convair's Dynamic 8's April 27. Following a spaghetti dinner the two clubs enjoyed lively dancing until 11 p.m. when the Steppers returned to Pomona.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is May 14. Call ext. 1071 LF or 3322 KM.)

★ ★ ★

ADVENTURERS—Meeting May 15, 7:30 p.m., CRA Clubhouse.

BADMINTON—Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BICYCLE CLUB—Short Sunday afternoon rides each week. Leave Islandia Hotel on Mission Bay at 2 p.m.

BOWLING—Mixed summer leagues forming. Call Jim Hayman, ext. 581 LF or Mike Brooks, ext. 2916 KM.

BRIDGE—Play each Friday, 7:30 p.m., CRA Clubhouse.

CAMERA CLUB—Second quarterly contest competition, May 19, 8 p.m. Photo Arts Bldg., Balboa Park.

CERAMICS—Meetings Tuesday and Thursdays, 7-10 p.m., CRA Clubhouse.

CHESS—Play Wednesdays, 7 p.m., CRA Clubhouse.

CHORUS—Rehearsals 7:30 p.m., Mondays, CRA Clubhouse. Phone Jim Pate, ext. 1730 KM; Jo Ann Bray, ext. 1091 LF; Walt Minor, ext. 1111 KM after 4:30 p.m.

COINEERS—Meeting May 15, 8 p.m., Lindbergh Field cafeteria.

DELTA DIVERS—Meeting tonight (May 8), 7:30 p.m. CRA Clubhouse.

FENCING—Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th and C Sts.

FISHING—Meeting Tuesday May 21, Gillespie Field Clubhouse. Potluck, 6:30 p.m.; meeting 7:30.

GOLF—Tournament May 18-19, Bonita course. Call ext. 511 LF for starting times.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Mondays through Fridays; 10 a.m. to 5 p.m. Saturdays. Call ext. 1111 KM.

ICE SKATING—GD family skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

JUNIOR SCIENCE—Workshop May 17, 7:30 p.m., CRA Clubhouse.

MINIATURE RAILROAD—Operating sessions Saturdays, Sundays and holidays, CRA Missile Park.

PISTOL CLUB—Shoot May 12, 9:15 a.m., San Diego Police Pistol Range. For information call Warren Walker (days) ext. 1104 LF or Roland Schneider (nights) ext. 1564 LF.

RADIO CLUB—Swap meet, May 12, noon to 4 p.m., CRA Clubhouse parking lot.

RIDING CLUB—Meeting tonight (May 8), 7:30 p.m., CRA Clubhouse.

ROCKHOUNDS—Meeting tonight, 7:30 p.m., CRA Clubhouse.

SCULPTURE — Workshop sessions Mondays, 7-10 p.m., CRA Clubhouse. Open to all GD employes.

SPORTS CAR CLUB—Meeting tonight, 7:30 p.m., Gillespie Field Clubhouse.

TENNIS—Spring tournament, May 18, 19, 25, 26 and June 1, 2 and 8.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m., CRA Clubhouse.

TROPICAL FISH—Meeting May 13, 7 p.m., Room C, CRA Clubhouse. For information call Louis Heyn, ext. 2231 KM.

WOMEN'S GOLF—Tournament May 11 at Tecolote Canyon Course.

Recreation Council Will Sponsor Shoot

San Diego Industrial Recreation Council will sponsor a shoot for gun buffs on consecutive Sundays, May 26 and June 2.

Pistol (center & rim fire) events are slated for May 26 at the S.D. Police Pistol Range. Skeet gets under way the same day at Convair's Gillespie Field range. The same facility will host rifle and trap shooters the following Sunday, June 2.

Jack Swank, CRA Gun Club commissioner will serve as range master.

Events and firing times are as follows:

Pistol (center fire), 9 a.m.; skeet, 10 a.m.; pistol (.22 Cal. Rim), 11 a.m.; rifle, 9 a.m. and trap 10 a.m.

Who's Interested In Scratch Loop?

An early call is out for CRA keglers to organize a men's 875 scratch league next winter.

Reservations must be made well in advance and choice of lanes is limited to Brunswick Bowlero on Wednesday or Pacific Recreation on Thursday at 6:30 p.m.

For further information phone Commissioner Jim Hayman, ext. 581 LF or (home) 466-1262.

Briefing on Tours Scheduled May 15

The third in a series of informational meetings on CRA-sponsored Hawaiian tours will be held at 7:30 p.m. May 15 in the CRA Clubhouse auditorium.

Available on a regular basis are nine-day, four-island tours for $239, 15-day, four-island tours for $298, and 16-day four or five-island tours for $338 and $368.

Golfing Weekend Scheduled At Warner Springs Resort

CRA Golf Club has scheduled a special "golfing weekend" for General Dynamics golfers and their families June 7-9 at the Warner Springs resort ranch and country club in northeast San Diego County.

Included will be round-trip motor coach transportation, two nights accommodation in twin-bedded guest cottages, two days green fees for the 18-hole golf course, tournament prizes, two gourmet dinners, two breakfasts and one luncheon.

Cost will be $50 per golfer, based on double room occupancy. Reduced rates will be in effect for non-golfing wives and children.

Swimming, tennis, horseback riding and the mineral springs spa facilities also will be available.

Del D. Dimmitt, CRA golf commissioner, said buses will leave the CRA Clubhouse at 5 p.m. Friday, June 7 for Warner Springs.

Additional information can be obtained and reservations made by phoning Dimmitt at ext. 511 LF.

Spring Tennis Tourney Slated

CRA Tennis Club and Convair Management Club have scheduled a spring tennis tournament for General Dynamics employes and members of their families beginning May 18.

Bob Herold, tennis commissioner, said tentative schedule is for advanced men's singles, intermediate men's doubles and novice men's doubles events to be played May 18 and 19, advanced men's doubles, novice men's singles, women's novice singles and women's intermediate singles May 25 and 26, intermediate men's singles June 1 and 2, and mixed doubles June 8.

Players may enter by phoning the member of the tournament committee responsible for the division in which they will enter.

The committee members are Bob Hintz (novice), ext. 1542 KM; Cecil Norwood (advanced), ext. 3439 KM; Dave Gorham (intermediate), ext. 1956 KM, and Thelma Zivolich (women's) 223-1575, or Herold, ext. 2360 KM.

Play will be scheduled on Morley Field, Mesa College and CRA courts.

Jennings to Head Coineers Officers

New Convair Coineers officers, installed April 26 at a dinner meeting in the LF executive dining room, are H. F. Jennings, president; F. B. Wagner, vice president; Joan L. Noga, secretary; Rosemary Jankowski, treasurer.

Pete Mitchell discussed some predictions of "things to come" in the numismatic world. J. J. Garside was master of ceremonies.

Trophies for winning coin displays were presented to V. L. Bacon, first place; E. L. Raymond, second place, and Marcia Jankowski, junior division. James C. Watts, outgoing president, received a special trophy.

Door prizes included uncirculated silver dollars, Kennedy 1964 silver half dollars and silver certificates.

The club's next meeting will be at 8 p.m. May 15 in the Lindbergh Field cafeteria.

Winners Announced In Photo Contest

Four winners were announced in color division Class A of CRA Camera Club's first quarterly contest.

Ken Rinker, Convair retiree; Chuck Harter (Dept. 984-2); Bob Pettyjohn (Dept. 572-1) and Maryann Wolf, wife of Erich Wolf (Dept. 587-0) were Class A winners while Bob Westerwick (Dept. 585-0) took Class B honors.

In black and white division, Westerwick's son Bruce and Erich Wolf were winners.

Second quarterly contest competition gets under way May 19, 8 p.m. in Photo Arts Bldg. in Balboa Park. Guests are invited and refreshments will be served.

Summer Bowl Leagues Form

CRA summer bowling leagues are being formed and will begin rolling next week at five local alleys.

All leagues are mixed and starting time is 6:30 p.m. as follows:

Tuesday—Clairemont Bowl.

Wednesday — Brunswick Bowlero.

Thursday — Pacific Recreation (trio); Pacific Beach Bowl and another Thursday mixed league to begin May 23 at Frontier Lanes.

Keglers may sign for league play by contacting CRA Commissioners Jim Hayman, ext. 581 LF or Mike Brooks at KM ext. 2916.

Louis Heyn Elected Fish Club President

Louis Heyn has been installed as new president of the CRA Tropical Fish Club. Other officers for the 1968-69 club year are John Madrygas, vice president, and Norman Polakowski, secretary-treasurer.

Additional members are being sought for the club. Cost is $2 per year for General Dynamics employe families and $3 for others. A new club newsletter is being published monthly.

Winners of the club's "fish of the month" contest for sword tail displays were Polakowski, best of show; Charles Vest, second; Rudy Robledo Jr. and Randy, third.

The next meeting is scheduled Monday (May 13) at 7 p.m. at Room C in CRA Clubhouse. For information, call Heyn at ext. 2231 KM.

Chargers Tickets Still Available

Choice San Diego Chargers season tickets are still available through CRA at $60 and $45 each.

George Schmeidel, CRA business manager, said the tickets cover admission for three exhibition and seven league games.

The $60 seats are in section 34 in the upper deck at the home side 35-yard line and the $45 seats in sections 27 and 28 in the upper deck at one of the home side's corner end zones.

For additional information, phone ext. 1111 KM.

Radio Swap Meet Scheduled Sunday

A radio parts swap meet has been scheduled by CRA Radio Club from noon to 4 p.m. Sunday (May 12) in the parking lot northeast of the radio "shack" in CRA Clubhouse.

Members at their May 2 meeting heard Jim Carr, operator of amateur station W6FAY, and saw slides taken on a Far East tour.

Linksmen to Play Old Bonita Course

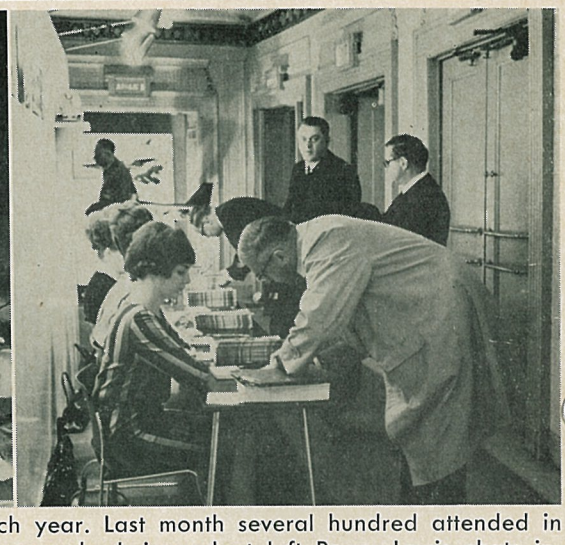
CRA Golf Club's next monthly tournament is scheduled May 18 and 19 on the old Bonita course. Starting times may be reserved by calling ext. 511 LF.

Del Dimmitt, commissioner, said 35 foursomes can be scheduled May 18 with 25 the following day. Earliest starting time each day is 9 a.m.

Merchandise prizes will be awarded first and second low net scores in each flight.







MEETING IN CHICAGO—Once a year share owners of General Dynamics are invited to Corporation's annual meeting to hear President Roger Lewis and other officers report on business affairs and answer questions from the floor. Meetings are held at a different city each year. Last month several hundred attended in Chicago. Above right, share owners check in and at left Roger Lewis chats informally with one of those attending.

Redeye Demonstrates Reliability During Sub-zero Alaska Firings

The shoulder-fired Redeye missile achieved an extremely high reliability rating in its final Arctic environmental tests.

The recent rigorous testing was conducted by the Army over a 3-month period at Fort Greely, Alaska, in temperatures that dipped to minus 40 degrees F.

More than 1,000 of the infrared homing missiles are now being delivered by the Pomona division of General Dynamics to the U. S. Army and Marine Corps each month. Program management is provided by the Army Missile Command, Huntsville, Ala.

The world's smallest guided missile was easily carried during testing by varied means of transportation, including soldiers on both skis and snow shoes, and successfully fired in the frigid temperatures.

The Arctic tests were conducted to verify Redeye's operational capability after typical storage, transportation, and field handling in the winter environments. The weapons and associated test equipment were stored in the open in temperatures that varied from 50 degrees above zero to 40 degrees below.

Transportation and field handling tests followed for the same weapons and test equipment in armored personnel carriers, trucks, amphibian cargo carriers, and by infantry on skis and snow shoes.

After completion of the preliminary conditioning tests, the same weapons were fired at target drones. Results were outstanding.

Redeye can be carried and handled by frontline soldiers in much the same way as an infantry rifle. It is four feet in length, three inches in diameter and weighs 29 pounds. In cross-country handling tests the infantry gunners carried a full complement of Arctic field equipment and protective clothing in addition to Redeye.

Redeye provides the individual soldier with a portable guided missile system for action against all low-flying aircraft. The system greatly increases the effectiveness of individuals or small patrols without adding a burden of heavy equipment, which is most important in rugged areas inaccessible to vehicles.

The weapon consists of two basic parts: the guided missile and the launching tube. The missile is sealed in the tube and cannot be removed in the field except by firing. An aiming reticle in the launcher sight permits range estimation and launch attitude by the gunner.

The missile seeker locks on the heat emitted by the target aircraft before firing, and necessary course changes caused by an evasive target are computed by the control electronics while the missile is in flight.



IN FAR NORTH—Soldier wearing cold weather gear and carrying Redeye missile was among those testing Redeye's operations under adverse conditions. Weapons achieved extremely high reliability rating.

Apollo Module Mockup Checked at RAT SCAT

Fort Worth division's RAT SCAT facility (Radar Target Scatter Site) has become a part of this country's effort to place a man on the moon by 1970.

A full-scale mockup of the Apollo command and service module was shipped to the site at Holloman AFB, N. M. for radar cross-section measurement.

The service module is designed to carry astronauts back to earth. NASA's Manned Space Flight Center in Houston needs precise radar cross-section data to evaluate its ability to track the vehicle with C-band tracking radars during trans-earth trajectory from the moon and during earth orbit.

C-band tracking radars provide the "back-up" system used by NASA to track the vehicle in case of failure of the S-band radar transponder on board the spacecraft.

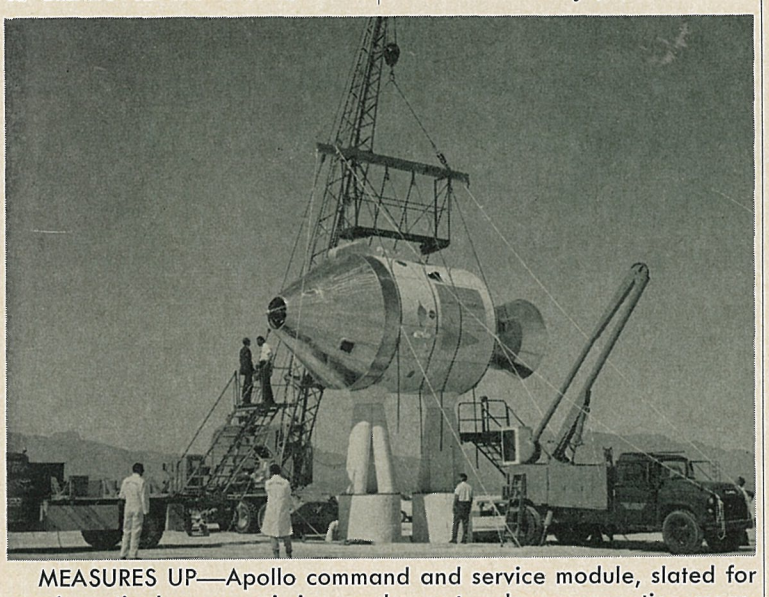
The 5,800-pound module—largest and heaviest ever measured at RAT SCAT—is 34 feet long and 13 feet in diameter.

It is mounted horizontally at a 20-foot target height on two styrofoam tripods.

"New and unique mounting and handling procedures and equipment" were devised by Fort Worth personnel and proven to meet requirements of this program.

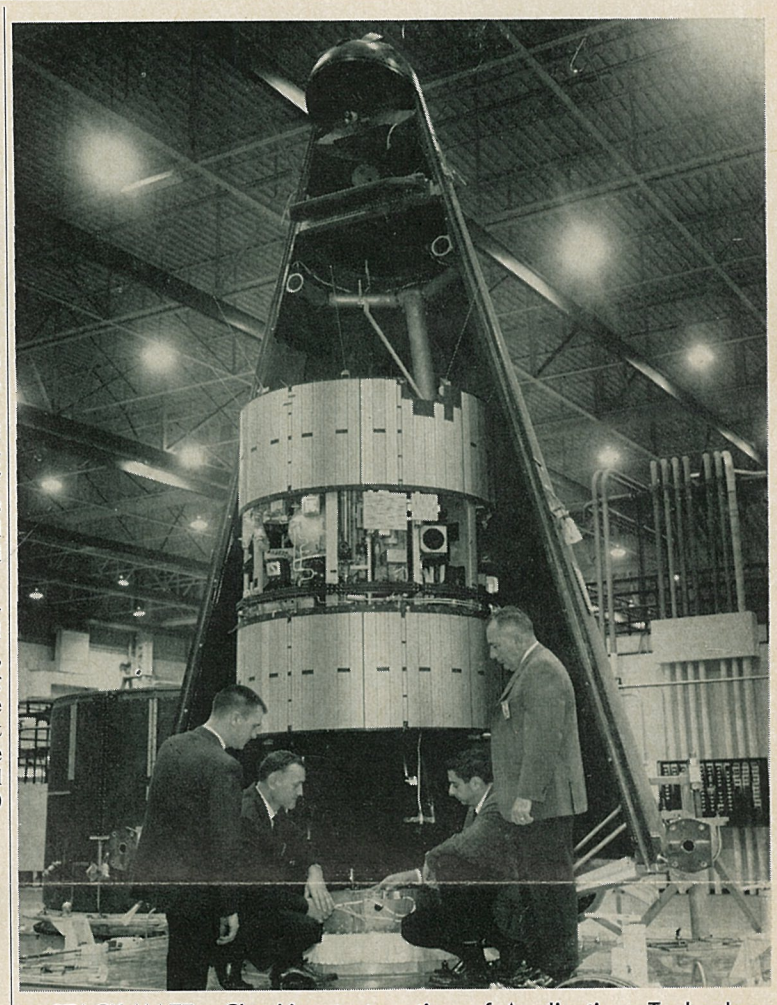
"Planning was such that all work was done in 65 per cent of the time normally required for processing and measuring large, heavy targets of this type," a Holloman spokesman said.

Actual measurement phase of the program was completed in less than two days.



MEASURES UP—Apollo command and service module, slated for use in nation's moon mission, underwent radar cross-section measurement recently at RAT SCAT facility, Holloman AFB, N. M.

You Can Become Regular Bond Buyer For 50 Cents a Week



STACK-MATE—Checking test mating of Applications Technology Satellite model with adapter at Kearny Mesa plant are, from left, Robert Moberly, Convair systems payload integrator; Joseph Mullin, Hughes Aircraft systems engineer; Thomas Sammon, Convair test conductor; G. W. Lucas, Convair Atlas-Centaur 17 project engineer. Half of flight fairing that will encapsulate satellite is in background.

Atlas SLV-3C Trucked to Cape For Satellite Launch in July

Atlas SLV-3C No. 5104, which will serve as booster for the Atlas-Centaur 17 flight to launch NASA's Applications Technology Satellite-D in July, has been trucked from Convair division's Kearny Mesa plant to Cape Kennedy.

The Centaur vehicle for use in the launch, 14D, and related fairings, adapter, barrel section and support equipment will be shipped by air and the AC-17 erected next week at Complex 36-A at the Cape.

A structural test model of the ATS-D satellite was used with the flight-article nose fairings, barrel section and transition adapter for mechanical and electrical nose fairing rotation test and stack-mate operations late last month.

Representatives from NASA's Lewis and Goddard centers and Hughes Aircraft aerospace group were present for the tests. The Lewis center has management responsibility for the launch vehicles and the Goddard center for the spacecraft, which is built by Hughes.

Gerald W. Lucas is Convair project engineer for the AC-17 vehicle. Thomas M. Sammon was test conductor for the match-mate tests and Robert J. Moberly is systems and payload integrator.

The ATS-D will be the first satellite of its kind to be launched by an Atlas-Centaur. Three previous ATS satellites were launched by Atlas boosters with Agena second-stage vehicles.

The Atlas SLV-3C for the AC-17 flight, which left San Diego April 23 for the cross-country truck trip, was enclosed in a redesigned bright yellow nylon shroud impregnated with waterproof vinyl.

A larger shroud was required because the SLV-3C is 51 inches longer than the SLV-3 boosters previously trucked to the Cape. J. S. Harrison, a Centaur program office project engineer, said the new shroud also will provide better weather protection than the silver colored shrouds previously used.

Lucas said Centaur 14D and related flight and support equipment for the AC-17 will be flown to the Cape from Miramar Naval Air Station in San Diego aboard an Aerospace Lines' Guppy airfreighter.

The actual ATS-D spacecraft will be mated to the AC-17 at Complex 36-A in July.

Appeal For Rentals Quickly Answered

An appeal for rentals (**GD/NEWS, April 24**) for new employes moving to San Diego brought prompt response, Lou Braun, LF employe services, reported.

"This has helped a great deal. However, the need continues. Please call ext. 1931 at LF if you have suitable rentals."

Three bedroom, 1½ bath, children and pets permitted are most in demand.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 11 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, May 22, 1968

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

★ ★ ★

Q — Do we have a regularly scheduled salary review system or not? In the old days we always knew when our salaries were going to be reviewed, but nowadays, it seems we can work for long periods of time with no review.

A — Yes and thanks for the question — there's no mystery here at all. Salaries are still reviewed twice a year, in May and November. There has been a change, however, and it's a simple but very important one. A person can now be given an increase at any time during the year that his performance has improved or his responsibilities increase. We call this the Merit Review system.

Incidentally, some of the confusion may have resulted from the fact that in 1967 because of the change in forms one of the Performance Evaluations was rescheduled. But not the salary review. *(GD/NEWS* Feb. 28, 1968.)

★ ★ ★

Q — When is something going to be done about rest room conditions at Plant 19 and LF?

A — Something is being done. Rest room conditions have been reviewed, and as a result action is now either under way or planned for the near future to improve conditions in 100 rest rooms. The work will include ventilation, lighting, equipment repairs and painting, as needed.

★ ★ ★

Q — In **GD/NEWS** the question about a salaried point system for retirement was answered "not at this time." Does this mean "no" or is there a plan for the future?

A — The answer means that no changes in the salaried retirement plan have been determined at this time. The company will continue to study alternatives in order to ensure the competitiveness of our total compensation program.

★ ★ ★

Q — Now that some restrictions have been lifted, will it be possible to release some color slides of Atlas, Mercury and Centaur launches for employes?

(Continued on Page 4)

There's Parking Room In LF Rider-Driver Lot

Although parking space is at a premium at Lindbergh Field, there is room for a number of more cars every working day in a Convair lot within a block of Overpass No. 1.

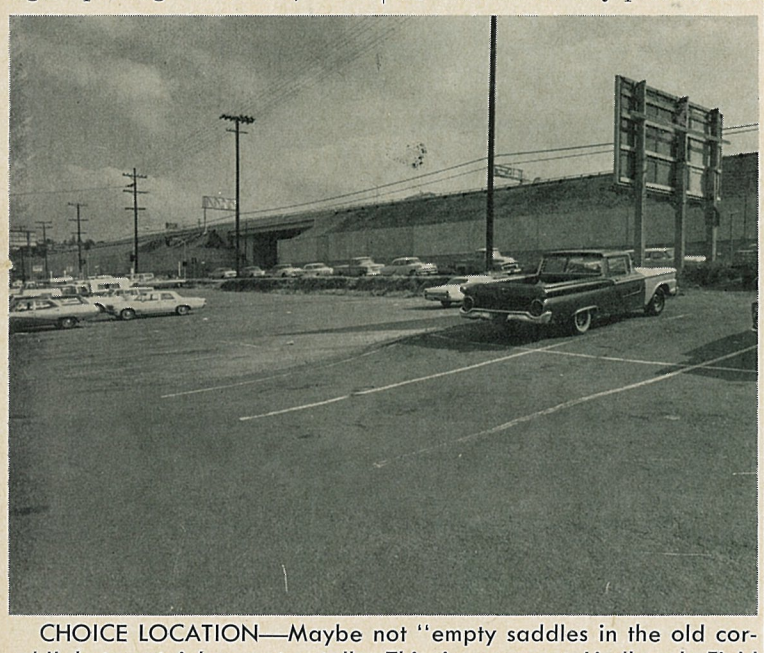
The "empty stalls" are in the Rider-Driver Lot located at Kettner and Sassafras streets.

The entire lot can accommodate 400 cars but it is frequently only three quarters filled.

"This is a prime location and we are anxious to take full advantage of the space in view of tight parking conditions," said Paul Veal, chief of industrial relations, Lindbergh Field.

Drivers with two passengers qualify to park in the lot. However, two-place sports cars qualify with a single passenger.

Probably the best way to form a car pool and thereby qualify for parking space is to inquire of employes in an individual's immediate section or department. However, to assist in bringing riders and drivers together, a bulletin board has been erected at the guard station at the Rider-Driver Lot so that potential riders and drivers may post notices.



CHOICE LOCATION—Maybe not "empty saddles in the old corral," but certainly empty stalls. This is scene at Lindbergh Field Rider-Driver Lot shortly after 8 a.m. More car pools would fill it up.

Chana Elected New President Of Mgt. Club

W. F. Chana won the election for president of the Convair Management Club for the coming 1968-69 term.

Others voted into office were: J. E. Cook (146-6), first vice president; H. B. Day (518-01), second vice president; C. B. Simmons (954-3), recording secretary; J. H. Wills (191-0), financial secretary; A. E. Divine (059-1), treasurer.

New directors elected for the three-year term are G. G. Christ (763-1) and W. S. Hicks (951-1). Two-year board members are A. J. Braidic (835-0) and G. Schmidt (580-2). Elected for a one-year term are R. A. Ames (195-3), R. W. Chambers (059-2), G. W. Cowan (820-1), and Terry Kell (202-4).

They will join hold-over directors L. A. Wood (840-0) who will serve a two-year term, and R. L. Peck (103-0), a one-year term. A. R. Mosco, past president, will also serve on the board.

The new officers will be installed June 12, at a dinner meeting to be held in the International Room of the El Cortez Hotel.

Election winners were announced last week at a club dinner meeting at the El Cortez Hotel.

Presentation of cost reduction awards were made at the meeting by Jack L. Bowers, division general manager, to C. H. Huss, Dept. 833-1, for devising a new way of doing a testing operation resulting in a saving of $232,000; and Sarah Williamson, Dept. 130-6, who proposed a new way of treating unemployment insurance records which saves $69,000.

Speaker of the evening was Dr. Kenneth McFarland, lecturer and author, who spoke on the preservation of the "American system."

New Hires Get Job Training

Convair is training a number of new employes without previous experience for work in areas in which there is a shortage of skilled workers.

Classes, conducted by educational services (Dept. 130-3) at Lindbergh Field, are in structural assembly, inspection, plastics, and metal bonding.

"Training new employes allows us to use people that have a potential for a certain skill," said Wayne Turner of Educational services.

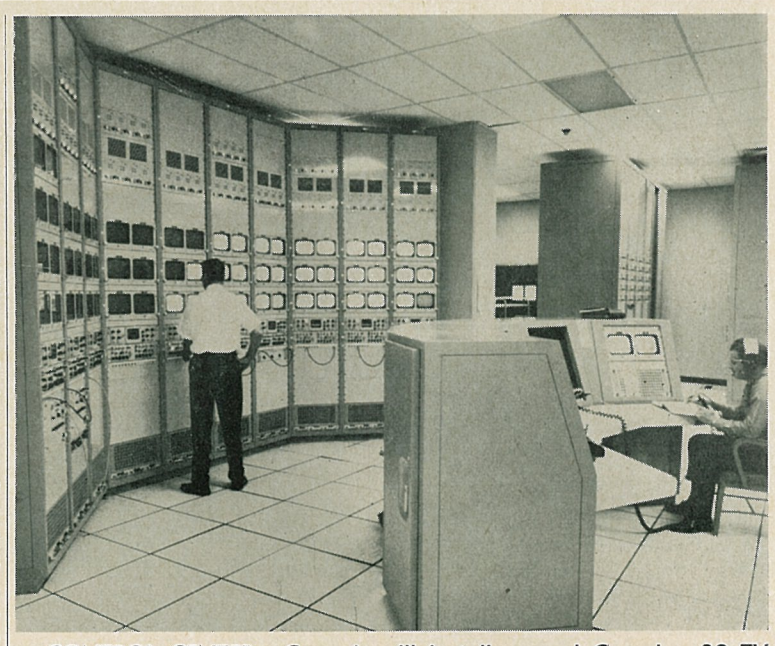
Turner said that while some of the new employes being trained in structural assembly practices have had previous experience, it is necessary to add skills demanded by new technologies.

"Fabrication techniques for the F-111 are not the same as for less sophisticated airplanes," he said. "Among other things, these workers have to learn how to use monel rivets, and to drill in steel that work hardens as it is drilled."

Previous classes have been held in inspection and in structural assembly, but the classes in working with plastics and in metal bonding techniques are new.

Turner said that the training program has received favorable responses from supervisors, and that the trainees are continuing to develop after they are on the job.

Classes run from one week in length for plastics to four weeks for inspection.



CONTROL CENTER—Convair will install second Complex 39 TV control center, similar to one shown here, for Apollo moonport at Merritt Island, Fla.

New TV Control Center Ordered For Merritt

Convair division has received a $595,000 contract from the U. S. Army Corps of Engineers for development and installation of a second television switching and control center for Complex 39 at Merritt Island, Fla., site of future manned Project Apollo lunar launches.

Loren E. Steadman, program manager, said the new TV center will be similar to that previously installed by Convair but will incorporate new-technology switching and fail-safe magnetic-memory logic hardware.

Both TV control centers will be used for routing video picture transmission from any of 60 cameras to any of 100 TV monitors, with the second TV center used as backup for a manned launch or permitting simultaneous TV surveillance of dual-pad testing at the moonport.

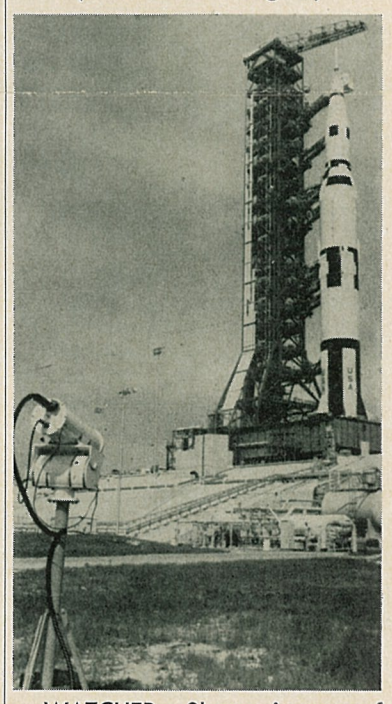
Six thousand cross-points are incorporated in the switching system. Provision has been made in the design for future expansion from 60 to 100 TV signal inputs.

Government supplied as well as Convair produced and procured television hardware will be used in the second center, which is to be completed in March, 1969.

A push button control panel located in the control center console will permit fast routing of transmission from any camera to any monitor in the system and the magnetic-latching switching system will retain the "on line" status of every cross-point in the event of power failure.

The unique switching system also will have a built-in and fail-safe "interrogation" capability, enabling the operator to check

(Continued on Page 2)



WATCHER—Shown is one of 60 TV cameras used in Merritt Island system, with Saturn in background.

Spare Parts Business Continues Steady Pace

Convair's airplane spare parts business, long one of the keystones of the division's economy, continues to be a multi-million-dollar a year activity, servicing more than 2,100 commercial and military aircraft.

"And it will continue for many years to come," said John "Scotty" Doig, manager of support contracts, Dept. 113-0.

"We will support any particular type so long as five or more are in operation, and it will be a long time before we are down to that. The first model 240 transport, built in 1947, is still in use after 21 years and over 44,000 hours of flying."

More than 400 persons are in the Convair spares business, including the factory and in support contracts itself.

Doig is responsible for maintaining and stocking more than 35,000 different spare parts, in various quantities, needed to keep Convair-built airplanes flying. These include more than 500 model 240/340/440/600/640 twin engine commercial transports; more than 490 of their military counterparts, T-29s and C-131s; and 94 of the 880/990 jet transport series. Also, there are over 1,000 F-102 and F-106 jet intercepters in use by the military.

"Engineering change proposals are our biggest area of military business," said Doig. "These update the airplane, and usually involve a modification kit which the customer installs."

Kits for incorporation of aerial refueling capabilities on the F-106 have recently been shipped to the Air Force.

Kits in work include UHF/TACAN kits for the F-106; VGI (Variable Gyro Indicating) standby system for the F-102 and F-

(Continued on Page 2)



QUICK SERVICE—Aircraft spares is big business for Convair. At left: F. J. Kennie, chief of military support contracts (right) and P. G. Bieberdorf, leadman, check parts for F-106 modification kit. Center: L. J. Hayes, chief of commercial support contracts (left) and J. W. Ensign Jr., chief of sales control and record administration, check card files that keep track of 35,000 parts stocked. Right: R. H. Johnson, spares stores supervisor (right) and F. G. O'Connor, Dept. 833 liaison, inspect plastic covered pylons for 880 and 990 jets. Pylons are stored on fixtures in a ready-to-ship condition as a single unit.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between May 16 and May 31.

Twenty-five year: Dept. 019, G. L. Darr, G. Moreno; 056, M. Clause; 143, R. A. Mendoza, F. M. Slonina; 149, J. Makis; 731, L. D. Gillmore; 732, F. W. Sickler; 756, C. J. Wilson.

Twenty-year: Dept. 016, A. C. Abromowitz; 049, J. F. Weddle; 100, E. N. Gerding; 149, W. Golden; 250, J. W. Wilson; 420, M. L. Rosenberger; 529, H. L. Jensen Jr.; 756, M. J. Shelton; 840, J. H. Duncan.

Fifteen-year: Dept. 015, L. M. Therrien; 202, J. R. Mackill; 400, K. W. Noonan; 452, H. E. Strever; 511, J. T. Lumgair; 515, J. L. Hoover; 518, L. S. Elmstrom; 524, J. A. Kooistra; 584, W. M. Tsunoda.

Ten-year: Dept. 142, F. J. Kossyta; 143, F. T. Santos; 191, E. J. Terry; 250, E. Barbour, P. E. Johansen, R. Leff; 401, G. Dugue; 403, D. R. MacGregor; 454, D. P. Lundy; 524, S. F. Nowlin; 780, H. M. Falls; 832, O. J. Williams; 840, R. A. Snow; 950, W. C. Donnelly; 952, W. J. Ketchum; 962, J. B. Jarman; 979, J. T. Morgan Jr., F. R. Palmer, S. B. Silva, C. C. Tuck, E. C. Wagner; 999, T. J. Briaddy.

ELECTRONICS

Twenty-five-year: Dept. 713, R. G. Huff.

Twenty-year: Dept. 581, J. E. Hardy.

Fifteen-year: Dept. 613, C. W. Summers.

Ten-year: Dept. 426, R. E. Beauclair.

STROMBERG DATAGRAPHICS

Ten-year: Dept. 8412, A. G. Dale; 8570, R. E. Thoman.

Retirements

CONVAIR

BROOKS—Wyllo, Dept. 195-6. Seniority date July 13, 1960, retired Feb. 18, 1968.

COOPER—David, Dept. 250-6. Seniority date July 17, 1951, retired April 27, 1968.

DAVIDSON—Marie H., Dept. 517-0. Seniority date Dec. 13, 1956, retired April 26, 1968.

EBERT—Howard P., Dept. 565. Seniority date Jan. 2, 1957, retired April 19, 1968.

GILL—George A., Dept. 592-0. Seniority date Oct. 21, 1951, retired April 30, 1968.

GILLETT—Lee A., Dept. 761-0. Seniority date Jan. 13, 1947, retired April 30, 1968.

HIJAR—Aureliano, Dept. 733-0. Seniority date Mar. 17, 1947, retired April 30, 1968.

PHILLIPS—Eula M., Dept. 016-0. Seniority date Oct. 19, 1950, retired April 12, 1968.

QUARLES—Sue, Dept. 059-1. Seniority date April 10, 1958, retired April 10, 1968.

SMALL—Kathryn R., Dept. 110-2. Seniority date Dec. 3, 1942, retired April 30, 1968.

SMITH—Velma D., Dept. 101-6. Seniority date Nov. 12, 1947, retired April 30, 1968.

WINCHELL—William H., Dept. 976-0. Seniority date Dec. 25, 1950, retired April 15, 1968.

WOOD—James D., Dept. 831-0. Seniority date Oct. 8, 1951, retired April 11, 1968.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Monday June 3, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 14 auditorium Tuesday June 4, 8 a.m. for first shift; today May 22, 4:30 p.m. for second shift.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF-STUDY — A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

General Dynamics News

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Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Papers Presented

CONVAIR

BLACK—R. L., Dept. 507-0. "High Speed Store Separation—Correlation Between Wind Tunnel and Flight Test Data." AIAA/Aerodynamic Testing Conference, San Francisco, Calif., April 8-10.

BOYNTON—F. P., Dept. 596-0. "The Flow Field and Radiative Processes in the Shock Layer of a High-Altitude Missile Plume." AMRAC Meeting, Washington, D.C., April 24.

DETHLEFSON—R., Dept. 596-0. "Electric Arc Attachment, Heat Transfer and Electrode Erosion of High Current Arcs Driven Magnetically Over Metal Electrodes." AIAA, ASME, IEEE/ Ninth Symposium on Engineering Aspects of MHD, Tullahoma, Tenn., April 3-6.

HOOLEY—J. L., Dept. 150-0. "Aerospace Applications of the General Purpose Simulation System." IBM Seminar on Operations Research in the Aerospace Industry, Newport Beach, Calif., April 29-30.

NEWSOM—B. D., Dept. 592-0. "Spacial Orientation and Visual Fixation." Federation of American Societies for Experimental Biology, Atlantic City, N.J., April 15-20.

NEYNABER—R. H., Dept. 596-0. "Experiments With Merging Beams." The Institute of Physics/Heavy Particle Collisions Conference, Belfast, Ireland, Apirl 1968.

SASLOVE—N., Dept. 532-0. "Electrical and Pneumatic Servo-actuators for Aerospace Application." ASME/1968 Design Engineering Conference, Chicago, Ill., April 22-25.

STANLEY—W. J., Dept. 250-0. "Maintenance Performance Evaluation." ASME/1968 Annual Plant Engineering and Maintenance Division Conference, Kansas City, Mo., April 29-May 1.

Papers presented at the Supersonic Tunnel Association Meeting, Silver Spring, Md., April 22:

LOWE—W. H., Dept. 507-0. "General Dynamics High Speed Wind Tunnel Test of the Supersonic Tunnel Assoc. Standard Exhaust Nozzle at Mach Numbers 0, 0.60, 0.70, 0.80, 0.90 and 1.20."

GORDON—C. C., Dept. 507-0. "The General Dynamics Hypersonic Wind Tunnel."

Papers presented at the AIAA, ASME/ Ninth Structures, Structural Dynamics and Materials Conference, Palm Springs, Calif., April 1-3:

NILSON—M. C., B. P. SWEET, Dept. 581-6. "The Structure of a Large Imaging X-Ray Orbital Telescope."

PENGELLEY—C. D., Dept. 966-9. "Natural Frequency of Longitudinal Modes of Liquid Propellant Space Launch Vehicles."

TAYLOR—G. E., Dept. 512-2. "Structural Development of a Large Radio Astronomy Antenna."

HEATHMAN—J., Dept. 512-2. "Design, Fabrication, and Testing of a Flightweight, 6000 Gallon, Liquid Hydrogen Tankage System for Advanced Vehicle Applications."

Papers presented at the AIAA/2nd Communications Satellite Systems Conference, San Francisco, Calif., April 8-10:

MITCHELL—H. A., M. DOWNING, Dept. 585-0. "Effect of Modal Oscillations on the Pointing of a Large Orbiting Communications Antenna."

GOLDMAN—A. M., Dept. 589-0. "A System Analysis of a UHF TV Broadcast Satellite with Emphasis on Ground Receiver Requirements."

Papers presented at the IEEE/National Telemetering Conference, Houston, Texas, April 9-11:

DEVEREUX—R. F., Dept. 506-5. "Acquisition of Real-Time Oceanographic Data."

KOSIC—R. F., Dept. 506-5. "Quantitative Results of Long Range Telemetry Test."

TOYEN—G. L., Dept. 553-1. "An Economical PCM Front End for a Real-Time Data Processing System."

Invention Disclosures

CONVAIR

CAZORT—L. B., Dept. 756-0. Screw Starter.

NEWBROUGH—L. H., Dept. 964-4. Precursor Penetration Aid for Aircraft.

ROGERS—S., E. R. WOODS, Dept. 590-0. Crosspoint Switching Element for Use in UHF Matrix Switch.

STURMAN—M., Dept. 756-0. Dotted Liner.

HILL—G. L., Dept. 572-1. Holding Fiber Spacing.

Deaths

CONVAIR

HEINZ—Dwight C. Sr., Dept. 027-0. Died May 12, 1968. Survived by wife, Ruth R.; children, Dwight C. Jr., and Sandra Lee Bentley.

KLOMPARENS—John (retired), died May 14. Survivors include wife Vera and daughter Carol.

LOCK—Dorothy G., Dept. 193-2, died May 4. Survivors include son, Robert.

Awards

CONVAIR

Employe suggestion awards approved for the week ending May 3, 1968.

Dept. 955, J. L. Benton, $15.00; 001, R. J. Cameron, $15.00; 143, M. S. Carson, $40.60; 059, S. E. Cass, $40.10; 507, G. C. Cooper, $43.80; 146, W. L. Curtis, $35.40; 059, F. F. Flores, $15.00; 834, B. Fortin, $11.30; 045, F. A. Gordon Jr., $15.00; 532, N. Grubnich, $15.00; 820, D. J. Harris, $15.00; 059, N. M. Howarth, $40.10; 142, A. G. Infeld, $58.20 (two awards); 401, N. D. Ingram, $89.10.

Dept. 005, A. J. James, $15.00; 401, B. J. Jeffries, $68.50; 733, L. Jones, $59.45; 860, M. E. Kruger, $8.70; 015, J. M. Linde, $15.00; 142, R. E. Mueterait, $15.00; 045, A. J. Nicholas, $37.90; 027, S. Persley, $49.50 and H. M. Sagert, $33.60; 733, S. Serrano, $59.45; 143, M. V. Sponsler, $15.00; 843, E. C. Steeger, $172.00; 840, D. E. Sundstrom, $45.60; 958, J. X. Tsirimokos, $15.00; 400, A. M. Walden, $15.00; 027, L. Walton, $37.80; 780, E. M. Williams, $15.00.

Employe Suggestion awards approved for the week ending May 10.

Dept. 566, J. J. Arnieri, $31.40; 027, D. D. Axsom $30.00 (two awards); 578, R. E. Bailey, $29.00; 015, S. Brown, $238.30; 045, J. Caldwell, $20.30; 250, W. R. Everitt, $15.00; 005, R. E. French, $17.90; 059, O. H. Fritz, $15.00; 045, R. Funke, $20.30; 979, L. H. Gross, $50.00; 300, J. F. Herron, $28.30; 001, E. H. Hussong, $850.70; 027, J. L. Killeaney, $30.00 (two awards); 015, C. E. Kiser, $15.00; 524, S. L. Lakes, $108.00; 524, P. Lockwood, $15.00; 507, W. H. Lowe, $341.30; 031, B. Luffe, $15.00; 142, D. E. Palmer, $44.10 (two awards); 142, W. C. Oliver, $22.10; 005, J. R. Price, $15.00; 149, J. Ratajkowski, $50.00; 842, H. M. Rinaldi, $89.50; 541, A. Sansone, $15.00; 027, F. J. Serio, $15.00; 141, G. E. Stachwick, $263.40; 142, W. J. Steffen, $110.60; 566, H. N. Sylvester, $31.40; 979, L. E. Van Horn, $15.00.

New TV Control Center on Order

(Continued from Page 1)

the status of every switching point.

Push buttons on the "status" panel, when actuated by the operator, also will light to indicate which monitors are receiving input from any camera, or, conversely, which camera is providing output for any specific monitor.

Steadman said design and development of the new switching technology resulted from Convair studies during the past three years under the direction of W. T. Dorrance, director of special programs for the division's research and engineering department, and conducted by the advanced engineering group headed by Eric Woods.

"The switching system is just one important aspect of our total systems integration task for the second TV control center," he pointed out.

In addition to Steadman, key personnel working on the control center program include Wendell Arford, group engineer; W. G. Henshaw, switch system engineer; David Frye, mechanical and components engineer; Jan Tall, electronics engineer; Art Mason, logic engineer; Stan Rogers, consulting engineer, E. L. "Spike" Wolfensberger, systems integration engineer, and Leroy Watson, systems and procedures engineer.

V. E. Boyer is site manager at Merritt Island with W. F. Hetrick as chief of operations.

Cameras in the TV system provide views of the Apollo Saturn 5 launch vehicles from numerous pad "infield" locations as well as surveillance of fuel storage, launch vehicle assembly and other areas.

Convair electronics engineers also are working on development of other new switching systems.

Spare Parts Business Holds To Steady Pace at Convair

(Continued from Page 1)

106; solid state computer kits for the F-106; and supersonic external fuel tanks for the F-106. Kits involving approximately 10 different modifications were shipped last year.

Twin-engine commercial transports are owned by 132 operators, of which 18 are airlines located in this country and 36 are overseas. The remaining 78 operators are corporations and individuals.

Ninety-four 880/990 jets are presently in service, operated by six domestic and eight overseas carriers.

"Ownership of the airplanes is subject to change," Doig said. "That is why we keep in close touch with operators. We keep them supplied with up-to-date catalogs, reissued every six months, which itemize and price available spare parts."

Doig emphasized the need for being able to respond quickly to an operator who requires parts immediately to put a grounded plane back in the air.

"An operator can lose as much as $30,000 a day in revenue by having a plane grounded for lack of parts. We have built a reputation for being able to supply parts with a minimum of advance notice. Usually we can ship an order the same day it is received, if necessary."

To do this, expediters are available 24 hours a day, every day of the week to answer calls and fill emergency orders. At night and on weekends a telephone answering service takes emergency calls which are relayed to an expediter on standby duty. During off-hours the expediter has access to the parts and can get the part shipped quickly.

Nearly all parts are stored on shelves prepackaged, ready for shipment.

An integrated data system, using an IBM model 1410 computer keeps close tab on all parts, even to the extent of automatically reporting that more parts are needed when sales deplete the quantity to a pre-established minimum.

"Sometimes there is a problem in obtaining parts for some of the older planes," said Doig. "Certain parts such as extrusions and forgings are no longer available, or perhaps a supplier of some component is no longer in business. Then we either have to try to get the part from another source, or fabricate it ourselves."



AT THE HELM — John Doig, manager of support contracts for Convair (seated), goes over spares orders with Truman Elliott, assistant manager. Doig travels thousands of miles annually keeping in touch with operators of Convair planes.

Doig said he no longer gets calls for B-24 or PBY parts, though a few of them are still flying.

F-111 Parts Supplier Selected 'U. S. Sub-Contractor of Year'

H. E. Moose, Convair director of material, was one of seven government and industry material and procurement officials who met in Washington, D. C. at request of the national Small Business Administration (SBA) to select the "national sub-contractor of the year."

Winner of the award, R. E. Dye of the R. E. Dye Mfg. Corp. of Breckenridge, Tex., was so named at a congressional awards luncheon in conjunction with National Small Business Week.

The "sub-contractor of the year" was selected from winners of eight regional competitions held throughout the country. The Dye firm holds sub-contracts from the Fort Worth and Convair divisions for precision machining of F-111 parts.

Moose said he was chosen by the SBA as a judge for the national competition because of Convair's "outstanding small business sub-contracts record."

V. O. Olson, Convair small business administrator, said the division has had outstanding ratings for its small business program for three consecutive years from the local SBA and the Defense Contract Administration Services Region — Los Angeles.

Traditionally, more than 70% of the division's sub-contracts and more than 50% of it's total sub-contract procurement dollars are awarded to small business.

During the first quarter of this year, Olson said 75% of the total number of sub-contracts and 62% of total procurement dollars were awarded to small business firms.

National Small Business Week was highlighted in San Diego by a Small Business Products and Services Fair in the Community Concourse. Convair had a display booth where capabilities questionaires were distributed.

GD Merit Scholarships Awarded to Seven Sons, Daughters For College

Seven new National Merit Scholarships, sponsored by General Dynamics, have been awarded for the college year beginning this fall. They go to sons and daughters of General Dynamics employes, currently high school seniors, with outstanding scholastic records. Winners are:

Ronald J. Riegert, whose father is Jack A. Riegert, Pomona division reliability specialist, attends Claremont High School and plans to attend University of California, Riverside, seeking a degree in physics. Interested in rocketry and photography, he holds a technician level amateur radio license.

Mark A. Swanson, son of Edwin A. Swanson, Pomona division test engineer, will graduate this year from Pomona High School and plans to attend Cal Tech, Pasadena, with a chemistry major. His wide interests include model building (he developed a scale railroad layout including grading and scenery), electronics and coin collecting.

Penelope J. Parsons, daughter of Richard Parsons of Convair division (currently on assignment to Fort Worth as an F-111 project engineer), attends Point Loma High School, will enter University of California, Berkeley, this fall, majoring in mathematics. A member of her school mathematics team since a sophomore, Penelope has already completed a junior college year of calculus and is taking an advanced calculus course at University of California, San Diego.

James H. Wood, whose father is Paul E. Moore Jr., Convair division crane rigger, will graduate from Madison High School and attend University of California, Irvine, this fall with a science major. Senior class vice president, James has held several paying jobs, maintained a high scholastic standing and found time to letter in gymnastics and track.

Coy L. Clement, son of Cleo M. Clement, Fort Worth division development mechanic, will graduate from Arlington Heights High School and attend Rice University, Fort Worth, this fall to major in political science with a view toward a legal career. Active in many clubs, including drama, and in school politics, Coy has talent for writing and his work has appeared in school publications and in the Anthology of High School Poetry.

Martha C. Morrison, daughter of Samuel G. Morrison, Electric Boat division naval architect, is a Williams School, New London, Conn., senior and will attend Wellesley College, majoring in sciences. Editor of her school's literary quarterly, Martha also has musical interests, plays the piano and was choreographer for a number of school productions.

Steven F. Tryon, son of Lansing E. Tryon, Stromberg-Carlson, Rochester, electronics engineer, will graduate from Penfield High School, Penfield, N. Y. and attend Wheaton College, Wheaton, Ill. to major in chemistry. Creative in developing Science Fair projects, Steven was chosen by his science department to represent the school at a Youth Conference on the Atom, and participated in a summer National Science Foundation program at Syracuse University.

Currently, there are 35 General Dynamics merit scholars in college.

In their fourth year are Paul R. Cary, Thomas D. Crouch, Dean M. Sandin, all University of California, San Diego; Kenneth J. Beiren, Notre Dame; Bryan C. Cheney, Harvard; Charles W. Loomis and Hugh B. Stewart, Stanford; Mrs. Lesley W. Blum, University of Texas, Austin; Mrs. Christine T. Rich, UCLA.

In their third year are: Edward P. Laine, Clark University; William O. Floyd Jr., Princeton; Susan Karel, UCLA; Harold F. Hemond, Worcester Polytechnic; Michael B. Foster and Thomas C. O'Hara, University of Texas; Nikhil Dave, University of California, San Diego; Robert M. Sigurdsen, Bucknell University; Michael B. Yachmetz, Johns Hopkins University.

In their second year are: Susan E. Speight, University of Texas; John S. Renbarger, Harvey Mudd College; Janet L. Thompson, Occidental College; Robert L. Jaegly Jr., Rensselaer Polytechnic; Lawrence Bell Jr., M.I.T.; Bonnie C. Dailey, University of Michigan; Philip F. Smith, Brown University.

In their first year are: Gary J. Weil, Harvard; Thomas J. Vaughan Jr., Northeastern University; Philip L. Camp Jr., Williams College; Theodore J. Crooks, Stanford; Robert E. Goad, Rice University; Susan E. Taylor, Swarthmore College; Catherine J. Campbell, University of California, Riverside; Nicholas D. Smith, Cal Tech; Jerene V. Good, University of the Pacific; Paul F. Jones, Notre Dame.

North Easton Youth Wins Laddon Scholarship

A North Easton, Mass., schoolboy will continue his years of interest in aviation with the study of aeronautical engineering at McGill University after winning the General Dynamics-sponsored I. M. Laddon scholarship.

Shawn Worster, a senior at Oliver Ames High School, North Easton, was selected from among 25 finalists for the coveted scholarship that honors a long-time General Dynamics executive and member of the Board of Directors.

J. G. Notman, member of Canadair Ltd. Board of Directors, met with the I. M. Laddon Scholarship Committee and reported that the selection of young Worster was unanimous.

The scholarship provides for $3,500 per year, plus transportation, for study at the Montreal, Quebec, Canada university where Laddon graduated in 1915.

General Dynamics President Roger Lewis said: "This scholarship has been created in recognition of the education which Mr. Laddon received at McGill and in the hope that it may give other American students the basis for similarly successful careers."

Worster, who also received a national merit scholarship letter of commendation, said his best high school subjects have been science and mathematics courses. In addition to studying, his time has been spent as president of his 700 pupil high school's student council.

He also was starting center on the varsity football team but missed most of the season because of a leg injury.

Worster described his interest in aviation as one going back to childhood.

"I have always loved building and flying model airplanes. The past couple of years I have spent time experimenting with wind tunnel tests at my high school science laboratory."

Worster is looking ahead to graduation in June, followed by a visit to McGill. During the summer he expects to work as a greenskeeper at a local golf course.

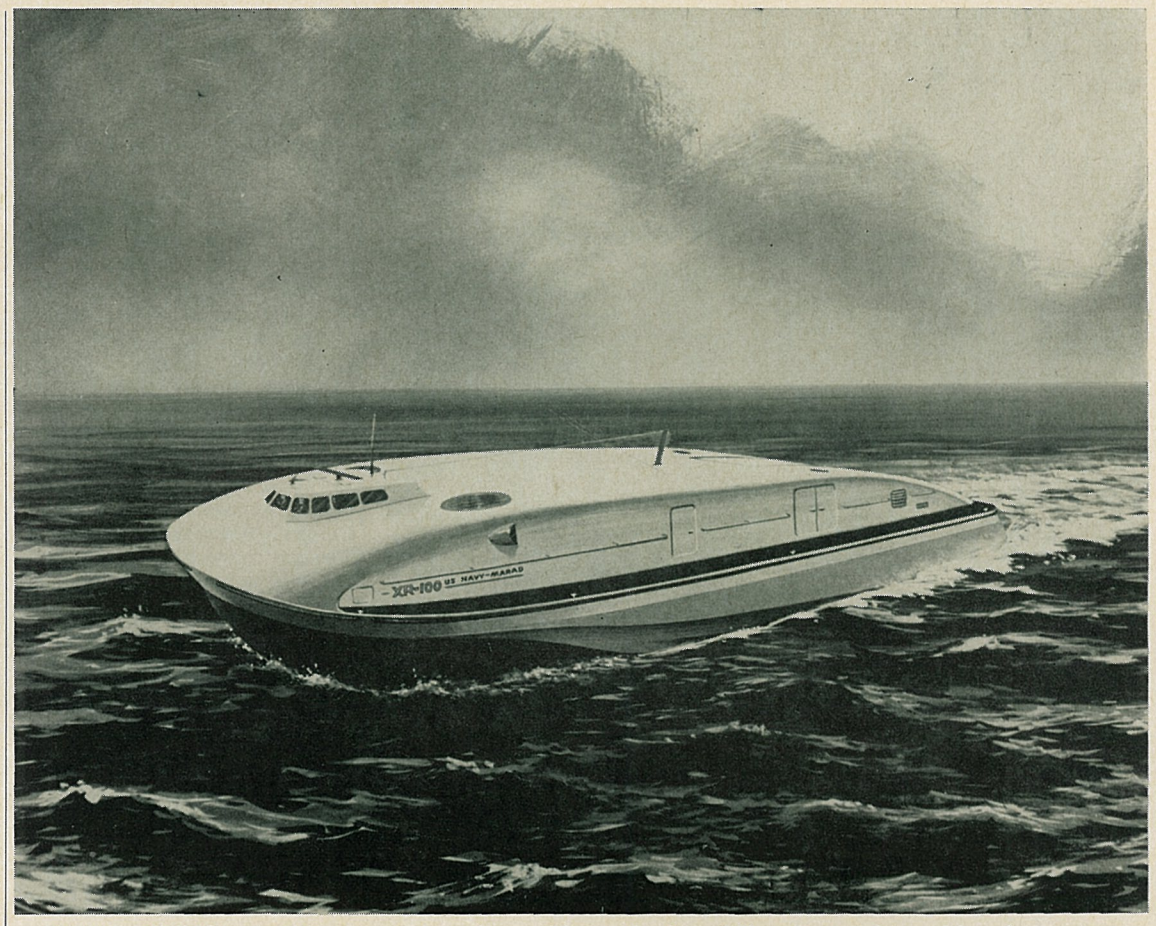
Laddon, a leader in American aviation development for nearly 40 years, has been a member of the Board of Directors since 1954 when Convair became a division of General Dynamics. Previously he had been executive vice president and a member of the board of directors of Consolidated Vultee, predecessor of the Convair division. He is now a resident of San Diego, Calif.

Social Security Record Available

Ever wonder if your Social Security records on file with the government are correct? There's an easy way to find out.

Postcard Form OAR-7004, available at employe services, when filled out and mailed to the Social Security Administration, will result in a complete record of your SS payments being sent to you.

Any mistake in your records should be corrected on Form OAR-7008.



BUBBLE RIDING—Artist's conception shows 90-ton Surface Effect Testcraft resulting from conceptual and parametric design study conducted by Electric Boat division with assistance from Convair, Quincy and Electro Dynamic.

Contract Extended For Studying 80-Knot Surface Effect Vessel

A contract extension has been awarded to Electric Boat division for the continuing development of a 90-ton Surface Effect Testcraft.

The Joint Navy-Maritime Surface Effect Ship (SES) Program made the award following the recent completion of a conceptual design study by the division. Three other divisions — Convair, Quincy and Electro Dynamic — participated in the design study.

The goal of the study was to achieve a craft with a calm water speed of at least 80 knots and capable of operating in six-foot waves. Surface effect ships ride over water on a cushion of air and achieve far greater speeds than conventional ships.

The craft proposed in the study uses a modified captured air bubble (CAB) concept, wherein the air cushion is contained between two sidewalls, or hulls, with flexible seals at bow and stern.

Electric Boat designed and built SKIP-1, a 2.5 ton air cushion vehicle somewhat similar to a surface effect ship and has operated it as a test craft for the past three years. SKIP-1 has logged over 250 hours, has achieved speeds in excess of 60 knots over water and has operated in waves up to four feet high.

Corporate Measurement Panel Maps Plans to Coordinate Equipment

Standards labs representatives from eight General Dynamics divisions/subsidiaries attended a meeting of the Corporate Measurement Control Panel May 6-8 in San Diego.

Phil I. Harr, corporate director of reliability, quality control and value control, addressed the group, reviewed accomplishments of the panel since it was established four years ago and presented recommendations.

H. J. Stuart, director of quality assurance for Pomona division, also attended. A. W. Reed, Convair manager of reliability control support services, welcomed the visitors.

E. E. Brewer of Pomona, chairman, moderated sessions at which reports were presented on the following panel activities and current studies:

1. Updating of a listing of all Corporate-owned test equipment, under direction of Cal G. Franklin of Electronics-SD, to aid in maximum usage and interdivisional transfer of equipment as needed.

2. A compilation of calibration capabilities of each of the divisions, under Brewer's direction, to assist divisions with "sharing" calibration workloads and use of facilities of other divisions.

3. Listing of "preferred" test equipment, under direction of E. R. Bader of Electronics-Rochester, as a means of eliminating use of equipment found unreliable or requiring excessive maintenance.

4. A study of laboratory environmental conditions and their effect on measurement accuracy, under direction of Brian D. White of Canadair Ltd.

5. Study of the feasibility of quantity purchasing of test instruments under direction of A. J. Woodington of Convair.

6. A study of feasibility of standardization of test equipment nomenclature, under direction of J. E. Vondracek of Convair.

7. Statistical studies to determine best means for selecting optimum periods for calibration of various types of test equipment, under direction of Felix Broccolo of Stromberg-Carlson.

Brewer said the panel also devoted considerable time to discussion of a proposed new military specification governing operation of calibration laboratories and the cost impact it would have on General Dynamics divisions.

Members of the panel toured standards laboratories at Electronics - SD, Stromberg Datagraphics and Convair facilities on May 7 and 8.

The panel's next meeting is scheduled Nov. 4 and 5 at Electro Dynamic division, Avenel, N. J.



STANDARDS STUDIES—Attending recent General Dynamics' Measurement Control Panel meeting in San Diego were (standing from left) P. I. Harr, Corporate director of reliability, quality control and value control; H. J. Stuart, director of quality assurance for Pomona division; E. E. Brewer of Pomona division, panel chairman, and (seated from left) C. G. Franklin, Electronics-SD; L. W. Fenelon, Electric Boat; E. R. Bader, Electronics-Rochester; E. E. Murphy, Fort Worth; Leroy T. Clark, Fort Worth; Brian D. White, Canadair; Masa Mayekawa, Stromberg Datagraphics; J. E. Vondracek, Convair, and A. J. Woodington, Convair.

Navy League Elects Fort Worth Man

John B. Long, Fort Worth division executive assistant F-111 logistic support, has been elected a national director of the Navy League.

He was installed recently at the league's 66th annual convention in Hawaii.

Long is currently president of Fort Worth Council of the Navy League and is a charter member.

Hump Pilots Plan Reunion Aug. 23-25

Members of the China, Burma, India — Hump Pilots Association will hold their 23rd annual reunion at Kings Inn, Crockett, Texas, Aug. 23-25. The association is made up of 850 Air Force and civilian pilots who flew passengers and supplies over the rugged Hump Run during wartime.



MATH AWARDS—Trophies for top scores in Honors Math Contest are presented by Jack L. Bowers, Convair division general manager, left, to Eric Halgren of Helix High, Michael George of Clairemont High and David Smith of Crawford High. Contest was co-sponsored by Convair and San Diego State College.

Winners Presented Trophies At Math Contest Banquet

Sweepstakes trophies in the 11th annual Honors Math Contest sponsored by Convair division and San Diego State College were awarded to Eric Halgren of Helix High, Michael George of Clairemont High and David Smith of Crawford High.

Jack L. Bowers, Convair general manager, presented the trophies at an awards dinner in the Hotel del Coronado.

Cash awards of $100 each for students scoring highest in the three contest divisions went to Halgren for county schools, George for city schools, and Charles Halkenn of University High for independent schools.

More than 200 students from second-semester honors math or equivalent courses from 43 high schools competed in the contest May 4 and were guests of Convair at the dinner.

Col. James R. Ourand, Defense Contract Administration Services plant representative, and Ray T. Blair Jr., assistant to the Convair general manager, also assisted with the awards presentations.



SURVEYOR HONORS—Grant Hansen, second from right, accepts plaque of appreciation for Convair division's role in Surveyor program from Robert Sears, second from left, and Leo Stoolman, right, Hughes Aircraft Co. Space Systems division assistant managers. James Cloud, associate manager of SSD's systems laboratories, is at left.

Convair's Surveyor Team Role Earns Praise From Hughes

Convair division has been presented a plaque in appreciation for its outstanding contribution to the Surveyor program by Hughes Aircraft Company's Surveyor "team."

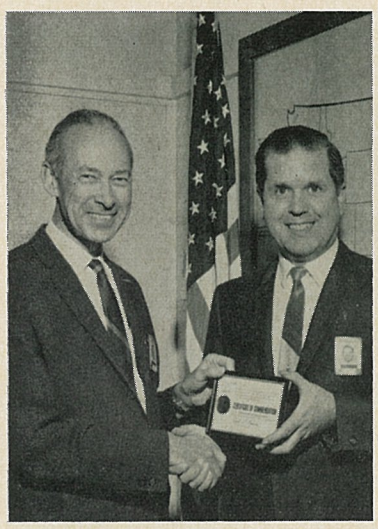
Grant L. Hansen, vice president-launch vehicle programs, accepted the award in behalf of Convair's employes in ceremonies at Hughes' Space Systems division headquarters in El Segundo.

"The Hughes Surveyor Team considers the development and flight record of the Atlas-Centaur to be one of the outstanding achievements in the first decade of space exploration," the plaque states.

"Your remarkable record of seven - out - of - seven successful launch vehicles was a major contribution to the softlanding of our Surveyor spacecraft.

"The Hughes Surveyor Team therefore extends its sincere congratulations and deep appreciation to the employes of Convair who contributed to the unqualified success of the Surveyor program . . . extending man's reach and sight to the very surface of the moon."

The plaque is on display in Bldg. 26 at Kearny Mesa.



COST SAVING—E. D. Heller, left, Convair manager of cost reduction and value control, presents commendation certificate to G. L. Hansen, vice president-launch vehicle programs, for his role in consolidation of reliability departments 957-0 and 143-1. Total savings from consolidation is expected to be $120,000 per year.

Salvage Schedule

Next employes sales day at the Convair salvage yard, Lindbergh Field plant, will be Saturday, May 25. Hours are from 8 a.m. until noon. Entrance is by ID card. Children and pets are not allowed inside the yard.

Children Eligible For New Benefits

Children of thousands of deceased women whose husbands received lump-sum payments from Social Security at the time of their deaths are now eligible for monthly benefits because of changes in law.

These are children under 18 (or 22 if still in school) whose mothers died with enough work under Social Security to permit lump-sum death benefit payments to surviving husbands but not enough to qualify for monthly payments to their children prior to enactment of 1967 legislative amendments.

General Dynamics employes who are fathers of such children are asked to contact the Social Security offices.

Three Launch Vehicles OK'd

Three Convair division launch vehicles were accepted on the same day by NASA and Air Force Space and Missile Systems (SAMSO) representatives April 26.

They were Centaur 15D, accepted by NASA, and Atlas 89F and Atlas SLV-3A No. 5201A, both accepted by SAMSO.

Centaur 15D will be second-stage vehicle for the Atlas-Centaur 18 mission to launch NASA's Application Technology Satellite-E. It was the third Centaur produced for NASA under follow-on contract -8700. The AC-18 booster, Atlas SLV-3C No. 5105, had been accepted in March.

Atlas 89F, the 17th of 23 E and F-series missiles being modified for new missions under the -788 contract, has been shipped to Vandenberg AFB for future use in the Air Force ABRES (Advanced Ballistic Re-Entry Systems) program.

Atlas SLV-3A No. 5201A was the fourth SLV-3A and the 23rd of 28 Atlas boosters being produced under the Air Force -710 contract. It was the 527th Atlas produced by Convair.

The Atlas SLV-3As, designed for use with Agena second-stage vehicles, are 107 inches longer than the SLV-3 and carry 48,000 pounds of useable propellant for boosting heavier payloads. The first of the new '3As" was used for launch of NASA's Orbiting Geophysical Observatory-E.

GD Group Attends Morale Seminar

Twelve Convair division men attended a seminar on "man-management, motivation and morale" sponsored by the San Diego chapter of the American Society for Training and Development on April 24 in the Town and Country Hotel.

They were M. S. Becker, R. H. Besack, D. R. Bloomer, D. K. Chigos, R. E. Dietz, M. M. Goodhart, C. C. Jackson, E. L. Jacobson, F. R. Lee, John Santos, L. C. Stuckey and W. R. Walker.

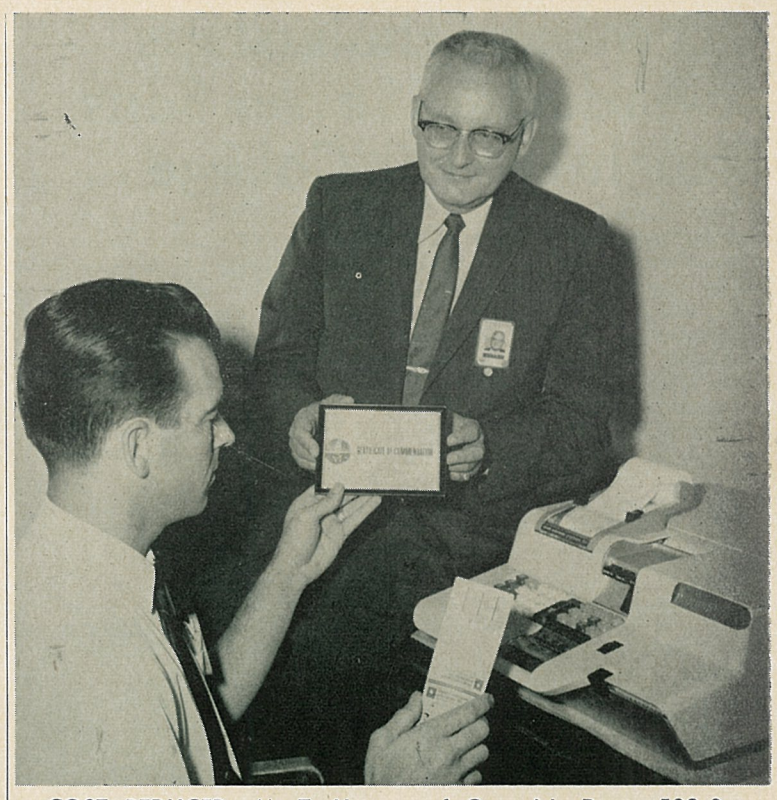
The seminar was conducted by Dr. J. L. Rosenstein, an industrial psychologist and former Loyola University professor and assistant director of the management center at Marquette University.

LF Will Dial '7' For Kearny Mesa

Effective June 1, employes at Lindbergh Field will dial "7" instead of "8" before dialing telephone extensions at the Kearny Mesa plant.

Jim McCann of office services said the "8" line is being cleared for later use in the Corporate-wide Dynanet telephone communications system.

In other procedural changes, calls from Lindbergh Field to the Los Angeles office will be placed by dialing "3" then "1" and the extension—and calls from Kearny Mesa to the Los Angeles office will be placed by dialing "4" and the extension.



COST REDUCER—M. T. Harvey of Convair's Dept. 583-0 receives certificate of commendation from John M. Wild, director of engineering technologies, for Cost Reduction Proposal under which desk-top computer is used in computing aerodynamics of conical-shaped vehicles. Computation tables are stored on magnetic card.

Substantial Savings Predicted By Use of Desk-top Computers

M. T. Harvey, an aerodynamics engineer in Convair's Dept. 583-0, recently received a commendation certificate for suggesting an improved technique for computing the aerodynamics of conical-shaped launch and re-entry vehicles.

As a result of his Cost Reduction Project engineers now compute pressures for use in aerodynamics studies on one of five small desk-top computers.

Cone tables or formulas are stored on small magnetic cards for use with the computer. The cards can be retained by the engineers and used as needed as they work on research and development projects and proposals.

Use of the desk-top computers and formula cards enables such tasks to be completed a tenth of the time previously required for manual computation from printed cone tables and is expected to save the division more than $12,000 this year.

Engineering department representatives said the desk-top computer systems also are being used for many other "small computer" and mathematical computation tasks.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Continued from Page 1)

A — They can be obtained at the KM photo lab but you need to know what slides you want, for they are not catalogued. Prices are a bit steep — $1.50 per slide and $5 per order for processing.

★ ★ ★

Q — If two persons are hired by Convair on the same day, which has seniority?

A — Neither. They have equal seniority. However, during a reduction in the work force, management would retain the most qualified, considering such factors as education, work performance, attendance, etc.

★ ★ ★

Q — At present salaried employes are allowed to deduct 10 per cent of their salaries for the Savings and Stock Investment Plan. Has General Dynamics given any consideration to increasing this amount for those with 20 years continuous service?

A — No. However, your suggestion is an interesting one and will be brought up during future reviews of the company's total compensation program.

★ ★ ★

Q — Is Convair responsible for maintaining the Palm Street entrance corridor to Parking Lot 6 at LF? Every week the chuckholes and washouts get worse.

A — Yes, and plant engineering has started repair work to correct the condition.

★ ★ ★

Q — Is it possible to have the vending machines refilled for the second shift? The pastry machine in Bldg. 5, KM, is usually empty by the time we get to work.

A — Yes. Additional service for second shift, Bldg. 5, KM, will begin at once. Thanks for calling attention to this.

★ ★ ★

Q — Can anything be done to open the stairway at Col. Q-21, Bldg. 3, LF? This would provide immediate access to our working area on the mezzanine.

A — The stairway was blocked to limit access to the bonded crib area, but a rearrangement in progress will make this unnecessary. The stairway will be reopened later this month.



TEST INSPECTORS—Navy civilian personnel who attended recent radiographic inspectors' course at Convair, standing from left, are V. Dardin Price, Anthony B. Wantik, Nick H. Peak, John L. Altamirano, Donald B. Clark and Harold L. Proctor. Seated from left are instructors Neal Kane and Ed Martindale of Dept. 149-1 and Konrad Boekamp, Convair reliability program administrator.

Six Navy Civilians Complete Convair-Taught Test Course

Six U. S. Navy civilians recently completed a six-week radiographic test inspector course at Convair.

The course, first of its kind developed and conducted by the division, included presentations on theory and principles of radiography and actual practical application in the laboratory, using X-ray equipment and radioisotopes.

Konrad Boekamp, reliability program administrator, said more than one-third of the group's class time was devoted to radiographic film interpretation.

Graduates of the course, all technically oriented civilian employes from Supervisor of Ships offices in San Diego and Seattle, were V. Dardin Price, Anthony B. Wantik, Nick H. Peak, John L. Altamirano, Donald B. Clark and Harold L. Proctor.

R. H. Gilliland, manager of reliability control at Lindbergh Field, was principal speaker at graduation ceremony at Kearny Mesa.

Convair received a contract in April, 1967, from the Naval Ship Systems Command to provide nondestructive testing training in Seattle, Wash., New Orleans, La., Bath, Maine and Bay City, Mich.

This led to a new contract last September to develop three separate radiographic training courses for Navy personnel — one for radiographic operators and two for radiographic inspectors.

The second course being given by Convair, a three week course to upgrade radiographic operators to inspectors, was being conducted this month.

Neal Kane, chief instructor for Dept. 149-1, prepared the courses in cooperation with the central training division of the Naval Ship Systems Command and provides instruction on theories and principles of radiography.

Ed Martindale, also of Dept. 149-1, is instructor for practical application in the laboratories and for film interpretation training.

Boekamp said the courses, after being "proofed" at Convair under actual classroom conditions, will be used by Navy instructors in training programs at military installations.

Convair also is scheduling a series of comprehensive nondestructive testing courses for representatives from industry.

Eighteen volumes of nondestructive testing manuals, developed by Convair since 1962 in cooperation with NASA, are now being used in more than 35 different countries and will be used by students as study materials both before and during the courses for industry.

Con-Trib Approves Campership Funds

Members of the Convair Employes' Con-Trib-Club committee May 2 granted a total of $10,235 to 18 school districts and community service organizations to subsidize summer youth campership programs.

Grants for sixth-grade summer camp programs and amounts included San Diego City Schools central campership fund, $400; Chula Vista City School District, $150; Cajon Valley School District, $100; La Mesa-Spring Valley School District, $100; National School District, $50; Poway Unified School District, $50; San Ysidro School District, $50; Solana Beach School District, $50; Lemon Grove School District, $35.

Other organizations receiving campership grants were Boy Scouts of America, $1,500; Salvation Army, $1,500; San Diego City-County Camp Commission, $1,500; YMCA, $1,500; Girl Scouts of America, $1,000; Bayside Social Center, $900; Camp Fire Girls, $500; Youth for Christ-Lifeline Camps, $500, and Jewish Community Center, $350.

Sea World Ticket Sales Are Brisk

Employes have been urged to purchase tickets early for "Convair Days at Sea World," sponsored by CRA and the Convair Management Club June 8 and 9.

George Schmiedel, CRA business manager, said tickets are being sold rapidly at CRA outlets and through Management Club boosters.

Prices are $1.75 for adults and 75 cents for children 5 through 17. Children under 5 will be admitted free.

All tickets are dated and can be used only on that day.

Herb Bickley New Toastmaster Prexy

Herb Bickley of the DCAS plant representative's office at Kearny Mesa has been elected president of Dynamic Toastmasters Club #457 for the six-month term beginning July 1.

Other new officers will be Jack Albright, educational vice president; Mas J. Jinbo, administrative vice president; Richard Freedman, secretary; Saul Rodriquez, treasurer; Ed Collier, sergeant-at-arms.

Riding Club Honors Officers, Chairmen

Outgoing officers and committee chairmen were honored at the May 8 meeting of the CRA Riding Club.

As a token of appreciation for their work, Commissioner Steve Berry presented silver goblets and decorative Appaloosa belt buckles.

Next regular monthly meeting of the activity will be June 12 in CRA Clubhouse.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is May 27. Call ext. 1071 LF or 3322 KM. All meetings are held in CRA Clubhouse unless otherwise noted.)

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ADVENTURERS—Meeting June 19, 7:30 p.m.

BADMINTON—Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BICYCLE CLUB—25 mile Coronado ride, including picnic on beach, Saturday, May 25. Leave Ford Bldg., Balboa Park, 9 a.m.

BRIDGE—Play each Friday, 7:30 p.m.

CAMERA CLUB—Meetings third Sundays, 7:30 p.m., Photo Arts Bldg., Balboa Park.

CERAMICS—Meetings Tuesdays and Thursdays, 7-10 p.m.

CHESS—Play each Wednesday, 7 p.m.

CHORUS—Rehearsals 7:30 p.m., Mondays.

COINEERS—Meetings third Wednesdays, 7:30 p.m., Convair cafeteria, Lindbergh Field.

DELTA DIVERS—Meeting June 12, 7:30 p.m.

FENCING—Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th and C Sts.

FISHING—Meeting third Tuesdays, Gillespie Field Clubhouse. Potluck 6:30 p.m.; meeting 7:30.

GARDEN CLUB—Meeting June 5, 7:30 p.m., Floral Association Bldg., Balboa Park.

GOLF—Golfing weekend to Warner Springs, June 7-9. Phone ext. 511 for reservations.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Mondays through Fridays; 10 a.m. to 5 p.m. Saturdays. Call ext. 1111 KM.

HI/FI MUSIC—Meeting June 11, 7:30 p.m.

ICE SKATING—GD family skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

JUNIOR SCIENCE—Meet third Friday each month, 7:30 p.m.

MINIATURE RAILROAD—Operating sessions Saturdays, Sundays and holidays, CRA Missile Park.

MODEL HO RAILROAD—Work sessions 9 a.m. Saturday mornings, 7:15 p.m. Tuesdays, CRA Missile Park.

PISTOL CLUB—IRC shoot, May 26, S.D. Police Postol Range.

RADIO CLUB—Meeting June 6, 7:30 p.m.

RIDING CLUB—Meeting June 12, 7:30 p.m.

ROCKHOUNDS—Meeting June 12, 7:30 p.m.

SCULPTURE—Workshop sessions Mondays, 7-10 p.m.

SPORTS CAR CLUB—Meeting June 12, 7:30 p.m.

TENNIS—Spring tournament continues, May 25, 26 June 1, 2 and 8.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m.

TRAILERS—Travelers Trailer Club outing to Elfin Forest near Escondido, May 24-26.

TROPICAL FISH—Meeting and workshop June 10, 7 p.m.

WOMEN'S GOLF—Tournament June 8 at Whispering Palms in Rancho Santa Fe.

Novice No Longer; Wins Expert Class

Russ Frazier, who just this year began competitive shooting with CRA Pistol Club, took first in .22 Police Course expert class in club action last week.

Frazier's 268 edged runner-up Bill Worthington who fired 267.

In master class competition Roland Schneider shot 288 for first followed by Warren Walker's 286.

The center fire Short National match also went to Schneider with 259. A. E. Kampmann placed second with 232.

Next club event will be an Industrial Recreation Council shoot May 26 at S. D. Police Pistol Range. Participants in center fire begin at 9 a.m. with .22 Cal. Rim competition getting under way at 11 a.m.

Action-Packed Golf Weekend Planned

Golfers and their families can make reservations for CRA Golf Club's special "golfing weekend" June 7-9 at the Warner Springs resort ranch by phoning LF ext. 511. Deadline is May 31.

Del Dimmitt, commissioner, said the "package" will include round-trip bus transportation, two nights in guest cottages, greens fees for two days, tournament prizes, two gourmet dinners, two breakfasts and one luncheon.

Cost will be $50 for golfers with reduced rates for non-golfing wives and children. Swimming, tennis, horseback riding and the mineral springs spa facilities also will be available.

You can buy U. S. Savings Bonds regularly for as little as 50 cents a week.



LINKS LIMELIGHT—Del Dimmitt, left, CRA golf commissioner, congratulates Convair trophy winners in recent IRC annual tournament. From left: Cliff Gordon, Ed Oliwa, Marion Hill, Sterling Campbell, George Hasti, Al Ruark. Three others — Al Van Horn, Richard Maler and John Oostyen — won trophies but were not present for photo.

Nine Convair Linksmen Win Trophies in IRC Tournament

Forty seven Convair golfers were among 146 from 21 different firms competing in the 26th annual Industrial Recreation Council tournament that ended May 12 at the Torrey Pines south course.

Del Dimmitt, CRA golf commissioner, said nine Convair men won trophies and complimentary tickets for themselves and their wives for the awards dinner by being winners or runners-up in tournament flights.

They were Cliff Gordon, runner-up, first flight; Ed Oliwa, winner, and Marion Hill, runner-up, second flight; Sterling Campbell, runner-up, third flight; John Oostyen, winner, and Al Van Horn, runner-up, seventh flight; Richard Maler, winner, and George Hasti, runner-up eighth flight; Al Ruark, winner, ninth flight.

The match play tournament was held on two consecutive weekends at Torrey Pines and the awards dinner was at the El Morocco restaurant in Lemon Grove.

County Fair Tickets On Sale at Saving

Bargain rate adult admission tickets to the San Diego County Fair are on sale at Convair, Electronics and Datagraphics employe services outlets.

Tickets at $1.25 (25 cent saving) for adults and 50 cents for children (no discount) are available. Proceeds benefit San Diego Children's Dental Health Center.

The fair will run June 26 through July 7 at the county fairgrounds in Del Mar.

63 Low Net Round Paces Girls Golf

Freda Magargal, newly appointed women's golf commissioner, toured Sam Snead's Tecolote Canyon course and wound up with low net 63 while Evelyn McFall had a 66.

Next tournament for GD linkswomen will be June 8 at Whispering Palms in Rancho Santa Fe. Tee-off time is 9 a.m.

Kathy Graham Paces Keglers

Kathy Graham paced CRA keglers in 27th annual handicap tournament held last month at Pacific Recreation by taking women's all events and singles honors.

Her pinfall total was 1799 in all events and 641 in singles bracket.

"Bergie's Five" led men's team competition with a 2993 score. W. B. Moyer, R. Ives, J. A. Gesiakowski, N. Bergen and Ed Swor made up the winning entry.

Phyllis and Ted Klanicza took mixed doubles with 1223 while Jim and Don Gates 1279 were just three pins better than Bob Witcher and Ted Jones in men's bracket of doubles competition.

The "Timber Jets" made up of Jim and Paul Hayman, Polly May, Clarice and E. B. Aus were mixed team champions with count of 2967. The team also had the men's all events winner in Paul Hayman who rolled 1940.

D. C. Shoopman's 667 was five pins better than Art Ramsey's 662 for the men's singles title.

TRAVELERS PLAN FOREST WEEKEND

CRA Travelers trailer club will spend this weekend (May 24-26) at Elfin Forest near Escondido. Marshall and Charlotte Cox will be wagon-masters.



NEW COMMISSIONERS—Newly appointed CRA commissioners and clubs they represent, from left, are Jim Pate, Choral Club; Freda Magargal, Women's Golf, and Warren Walker, Pistol Club. Appointments brought total number of CRA commissioners to 50.

Escape Capsule That Saved Two Over Thailand Returned to FW

"It worked fine! Smoothest ride yet.

"No discernible popgun (high, short-duration vertical acceleration), no roll, no pitch up."

This message was scribbled on the escape module of F-111 No. 35, which went down over Thailand recently. The module has been returned to Fort Worth division for a performance evaluation.

The author was Lt. Col. Harry Winberg, SPO representative on the module.

"Congratulations and regards," Major Winberg said in his note addressed to "Tino (Sierra, group engineer escape system group), and Ellis" (Gish, assistant project engineer).

Both men had worked with Colonel Winberg in developing the unique escape system virtually from its inception.

Ship 35's escape module will undergo close scrutiny by Fort Worth engineers.

"Such evaluations are done routinely in cases like this," said B. L. Harris, project design engineer. "The system obviously worked to near-perfection, but we'll make a piece-by-piece inspection to see exactly what happened."

The evaluation will involve a close look at all module systems: severance rocket motor, stabilization brake power chute, deployment mechanism, recovery flotation system, and others.

The ejection in F-111A No. 35 by Maj. A. A. Marquardt and Capt. Joe W. Hodges was the third straight successful ejection in the module—the first in combat zone.

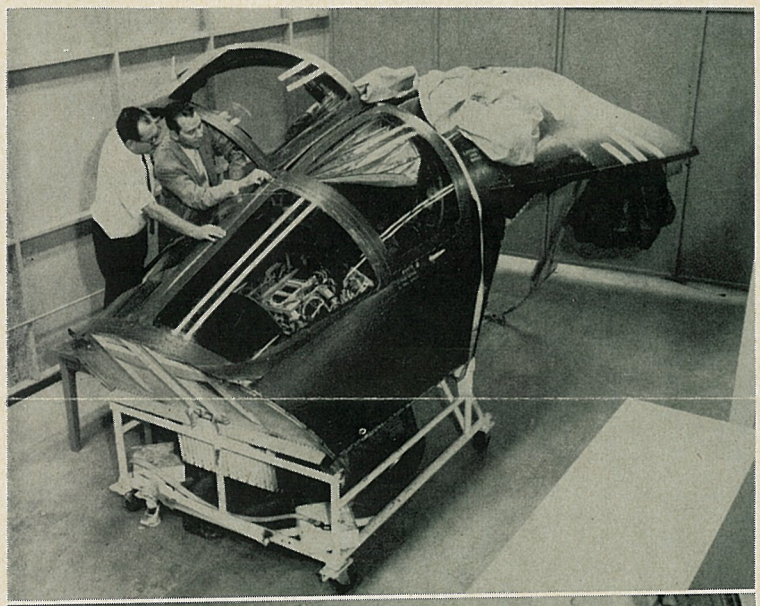
First ejection came Oct. 19, 1967 near Bridgeport, Texas on a routine flight-test mission by F-111A No. 15. Fort Worth division crewmen Max Gordon and Dave Thigpen became the first to eject in the self-contained module.

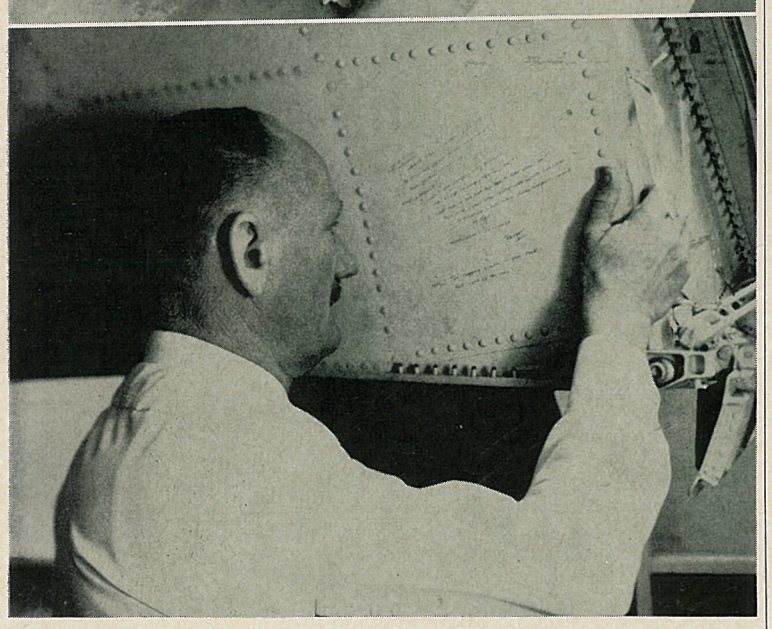
On Jan. 2, 1968, Col. Henry W. Brown and Lt. Col. Joe Jordon successfully ejected when F-111A No. 19 crashed at Edwards AFB, Calif.

The F-111A module enables crewmen to escape at virtually any speed or altitude, over land or water.

When a plane is in distress, linear charges literally slice the entire module away from the airplane. A stabilization chute steadies the module as it is ejected into the airstream; then a giant chute deploys to lower the pressurized module to earth. Attenuation bags soften the landing.

Built-in gear and rations are designed to help crewmen survive a landing for days in any climate or terrain.





GOOD SHAPE—B. L. Harris, left, and R. L. Atkins of Fort Worth division crew escape group (top photo), inspect module from F-111A No. 35, in which crewmen ejected safely. Below, G. W. Larson, project design engineer, looks over "informal" message from Air Force's Maj. Harry Winberg written on module.

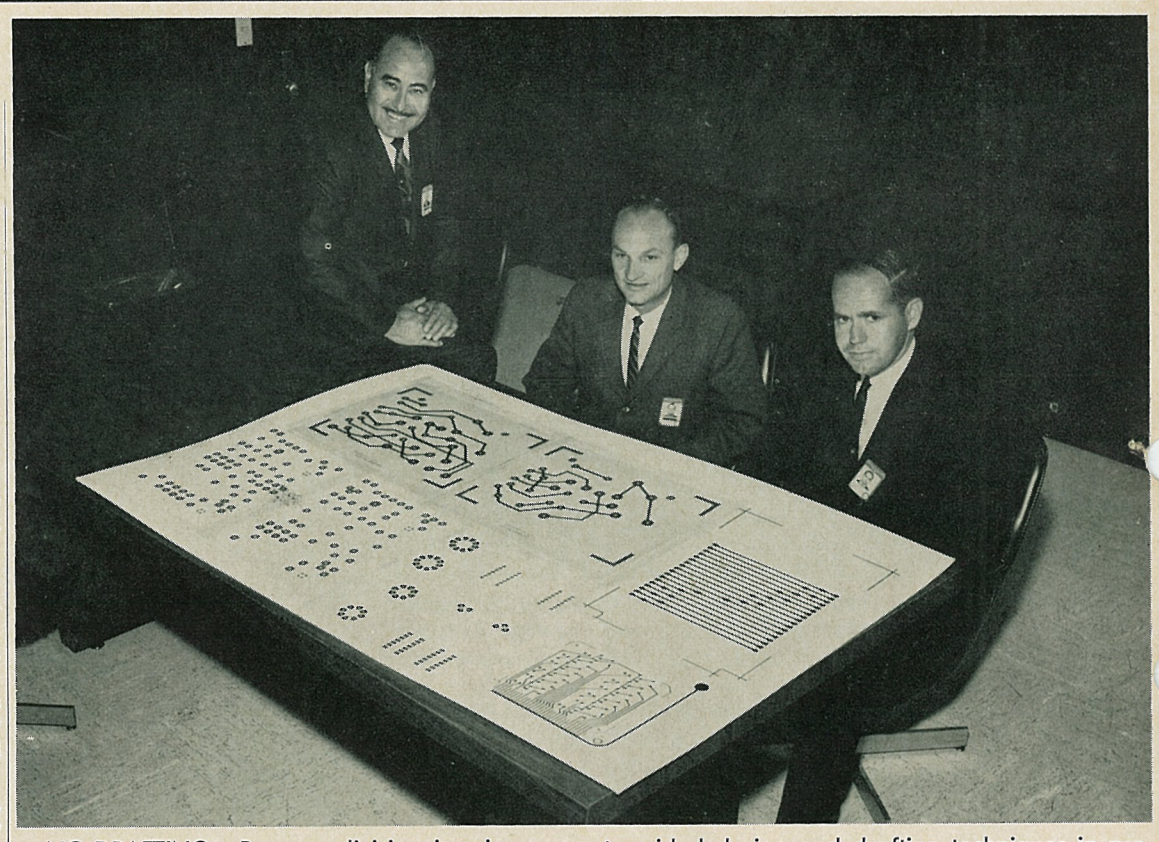
Medlock Elected National Vp By Quality Control Society

L. I. Medlock, director of quality control for Convair division, has been elected vice president of the American Society for Quality Control for the year beginning July 1.

The election was held at the ASQC's 22nd annual technical conference May 6-8 in Philadelphia. The ASQC is an international association of 21,500 managers, scientists and engineers who specialize in quality control and reliability engineering functions in industry and government.

Medlock, an ASQC fellow, has been a member of the society for 15 years. He is a past chairman of the San Diego section and currently is serving as chairman of the ASQC Western Regional Council.

A graduate of Oklahoma A&M College, Medlock joined Consolidated Vultee (now Convair) in 1941 as a student inspector and has held various inspection and quality control assignments and supervisory and management positions since that time.



NC DRAFTING—Pomona division is using computer-aided design and drafting techniques in preparing printed circuit masters. System was developed by, from left: Victor Perez and F. L. Goodykoontz, members of General Dynamics Numerical Control Committee, and L. F. Ahrens Jr., division APT (Automatically Programmed Tool) representative.

Computer-Aided Design Techniques Used For Printed Circuit Masters

Computer - aided design and drafting techniques have been introduced at Pomona division and are being used to prepare printed circuit masters, multi-layer and similar software.

Numerical control techniques being used at Pomona were developed by Victor Perez (Dept. 6-512) and F. L. Goodykoontz (Dept. 6-345), both members of the General Dynamics Numerical Control Committee, and L. F. Ahrens Jr. (Dept. 24-2), division APT (Automatically Programmed Tool) representative. APT is a program of the Aerospace Industries Association to standardize member companies' computer programming.

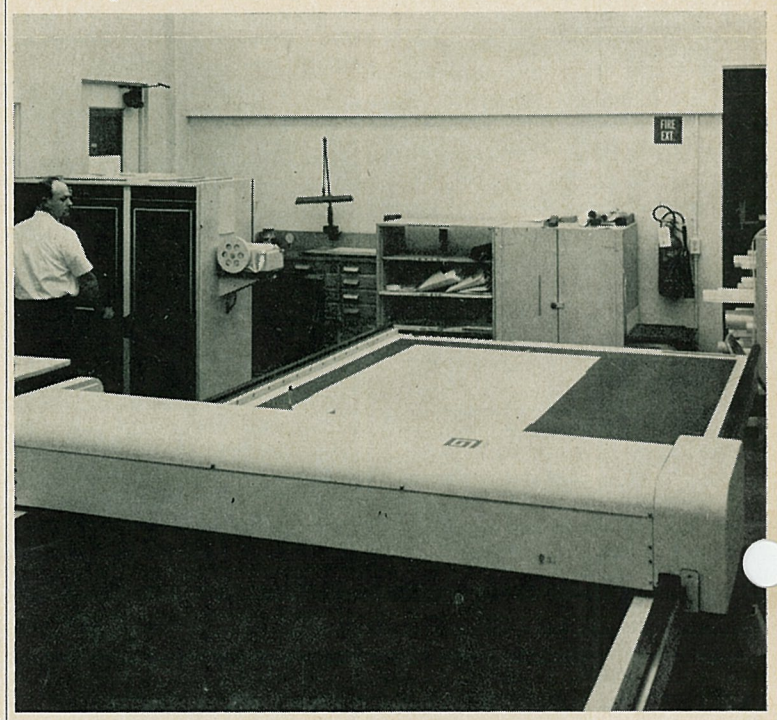
"The inputs for our initial system require a component arrangement layout which, in turn, is translated to a digital system for key punching," Perez explained.

"The key punched data is fed to one of engineering department's computers for a tape and a manuscript readout."

A plotter is used to verify the computer tapes prior to sending them to Convair division. At San Diego the tapes are used to operate a Gerber Automatic Drafting Machine which produces Scrib-N-Peal art masters.

"This procedure provides masters with a high degree of accuracy in a fraction of the time required for manual preparation," Perez explained.

Other more sophisticated systems of computer aided design and drafting are under study at Pomona division for possible cost savings and greater accuracy through use of computers and digitizing equipment. Perez pointed out that inputs for proposed systems may be printed circuit board layouts, prototype weapon layouts, part drawings, and APT programs. Outputs would be math models for analysis, APT point definitions, printed circuit masters, optical comparator charts and line profile studies.



AT CONVAIR—Pomona prepared tapes are sent to Convair and used to operate Gerber Automatic Drafting Machine to produce masters. Ron Ainsworth, Convair coordinator, is at controls.

Spear Finishes Harvard Course

L. E. Spear, Pomona division vice president—plans and programs, was graduated May 10 from the 53rd session of the Advanced Management Program (AMP) of the Harvard University Graduate School of Business Administration. The session began Feb. 12.

The 53rd AMP class was composed of 161 men, including executives from 136 companies in the U.S. and abroad, 15 military officers, and men from government agencies. Represented were 26 states, the District of Columbia, Canada, Australia, and 16 nations in the Middle East, Far East, Europe, Africa, Central America and South America.

Designed to provide senior executives with an overview of business administration and prepare them for the broad responsibilities of core management, the 13-week program was started in 1943, pioneering a development that is now world-wide in scope. AMP alumni number over 6,000, and include some 2,500 men in the top positions in business and government in this country and overseas.

Safety Conference Sponsored by NASA

L. I. Medlock, director of reliability control, represented Convair division early this month at a three-day NASA-sponsored system safety conference for government and industry.

The conference, the first of its kind, was held at NASA's Goddard Space Flight Center in Greenbelt, Md.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

GORDON BAIN (1966) from Fort Worth division to Quincy as special assistant to the general manager; **JOSEPH W. CODDOU** (1953) from Convair to manager of engineering administration Quincy; **CARTER W. ELTZROTH** (1956) from Stromberg-Carlson, Rochester to general counsel, Quincy; **ROBERT S. DURFEE** (1960) from Quincy to planner, Electric Boat; **MICHAEL M. FLEMING** (1959) from Convair to contracts manager, Electronics-SD; **WILLIAM DUMOULIN** (1957) from Convair to Pomona as senior tool engineer; **GARY G. MORROW** (1964) from Convair to Fort Worth; **JAMES A. TROUTWINE** (1960) from Convair to vendor quality control, Fort Worth; **ARNOLD H. RINGELHEIM** (1967) from Convair to Fort Worth; **FRED F. LISENBE** (1962) from Convair to senior research engineer, Electronics-SD; **EUGENE D. ERICKSON** (1966) from Convair to Stromberg Datagraphics as senior procedures analyst; **RICHARD T. SUGIYAMA** (1967) from Convair to Fort Worth; **WILLIAM T. MANSFIELD** (1963) from Electric Boat to vendor quality control representative, Fort Worth; **ARTHUR H. CHASIN** (1966) from Convair to Electric Boat as design engineer.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 12 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, June 5, 1968

Five Summer Classes Slated For LF and KM

Five summer courses have been scheduled at Convair division's Kearny Mesa and Lindbergh Field plants by educational services (Dept. 130-3) in cooperation with San Diego Evening College, University of California Extension and California Western University.

Registration for each should be made through educational services prior to the first class session.

"Effective speaking," one of 10 courses leading to the San Diego Evening College certificate in supervision, will be given from 4:30 to 7:30 p.m. Tuesdays and Thursdays for eight weeks starting June 25 at KM. Hal Rubin, Will Weidenfeller and David Chigos of Dept. 130-3 will be instructors. Cost will be $1.50.

"Blueprint reading," an eight-week Evening College course, is scheduled at LF from 3:45 to 6:45 p.m. Mondays and Wednesdays beginning June 24. Stan Krebs of Dept. 015-0 will be instructor. Cost is $1.50. Phone Wayne Turner, ext. 491 LF, for advance registration.

"Introduction to information processing and computer programming," a six-week UC Extension course, will be given from 5 to 8 p.m. Mondays and Wednesdays beginning June 25 at KM with Fred Schwend of Dept. 170-1 as instructor. Cost is $50.

"Leadership principles and practices," a six-week UC Extension course with Chigos as instructor, is scheduled 4:30 to 7:30 p.m. Mondays and Wednesdays at KM beginning June 24. Cost is $50.

"Analytical methods 1," one of eight Cal Western courses required for the master's degree in business administration, will be given at KM from 4:30 to 7 p.m. Tuesdays and Thursdays for eight weeks beginning June 20. Dr. Tor Tjersland will be instructor and a bachelor's degree is a prerequisite. Cost is $160.

Additional information can be obtained by phoning educational services, ext. 1931 KM.

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Summer Courses Will Begin June 24

Convair educational services offices have catalogues for summer session courses being given by the University of California Extension, San Diego State College and California Western University.

Regular summer sessions begin June 24. San Diego State College also has an intersession beginning Monday (June 10). Phone ext. 1931 KM for information.

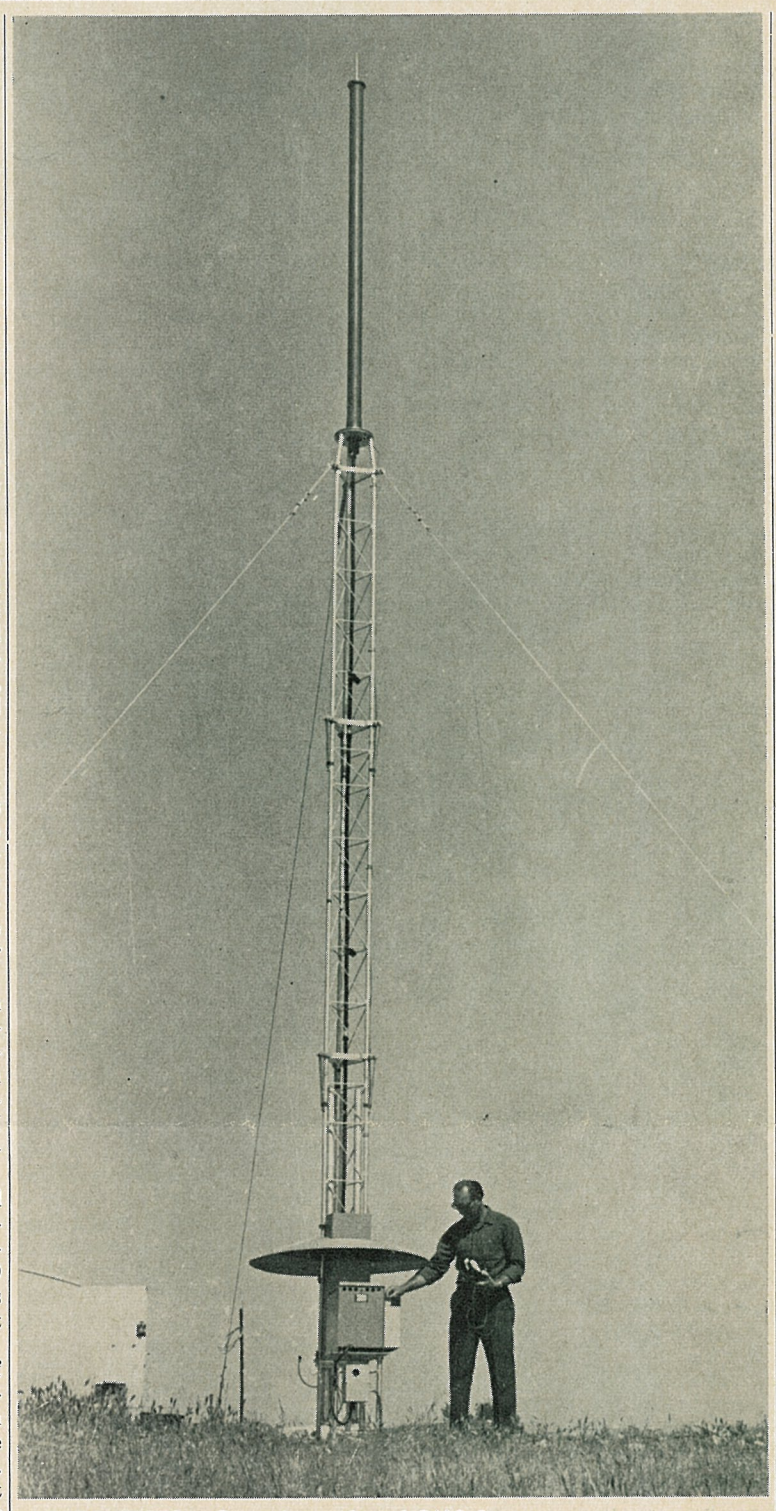
Club 'Day at Races' Scheduled June 23

Convair Management Club has scheduled a "Day at the Races" June 23 at the Caliente Turf Club in Tijuana.

Reduced-price tickets are on sale at $2.50 each from club boosters for members, families and guests. Dress is to include coat and tie for men and dresses for ladies.

Margarita cocktails will be served from noon to 1 p.m. The eighth race of the day will be named for the club.

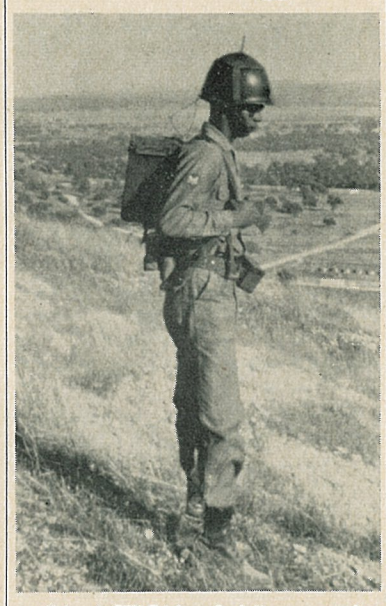
Plans have been made by Mike Alianelli, assisted by Roy Woodle, Terry Kell and Gerry Nuss.



FIELD TESTS—Convair-produced RMS-2 range measurement system units were tested recently at Hunter Liggett Military Reservation. Above, L. E. "Ed" Thomas, Convair RMS-2 senior design engineer, checks thermo-electric power generator at interrogation station.

RMS-2 Range System Field Tested For Army

Convair division's RMS-2 range measurement and communications system was successfully demonstrated for the Army's Combat Developments Command Experimentation Command (CDCEC) recently during four days of field tests on the Hunter Liggett Military Reservation northeast of San Simeon, Calif.



IN ACTION—Soldier carries back pack transponder unit. Digital-signal message unit is attached to belt.

The RMS-2 system was designed by Convair and more than 50 of its transponder, interrogation station and central control units are being produced by the division for CDCEC under contracts totaling about $4.5 million.

The Army will use the system at Hunter Liggett in developing field operations tactics and determining how well various missions can be performed with different types of present and proposed combat equipment.

Soldiers participating in the command's field "war games" will wear the RMS-2 battery-powered back-pack transponder units, helmets equipped with a small antenna and a bone-conducting message alarm unit, and small digital-signal message units attached to the belt.

Field positions of each individual can be determined within 1/600-second through use of a computer in a central control van from distance measurements made from several interrogation stations at known locations. The transponder units also may be carried aboard various types of vehicles and aircraft.

Individually selective "mes-

(Continued on Page 2)

Bond Purchasing Now 94 Per Cent; All-Time Record

Last month's division-wide U.S. Savings Bonds drive boosted regular bond buying by payroll deduction to 94 per cent participation, an all-time record high for Convair and a record for any General Dynamics division.

The results topped the division's goal by four per cent.

Del D. Dimmitt, campaign chairman, said the number of employes purchasing bonds through payroll deduction was increased from 8,666 to 12,067, or more than 3,400 new participants. Employes on leave of absence were not solicited.

Many of the new Series E Bond buyers also signed up for purchase of Freedom Shares on a matching basis. The new Freedom Shares pay 4.75 per cent if held to maturity in 4½ years.

Percentage of employes now purchasing bonds, by departments, are: community relations, marketing analysis and planning, military space programs, legal and contracts, 97.9; industrial relations, 98.9; material, 99.1; reliability, 98.0; finance, 95.5; research and engineering, 91.8; operations, 93.5; launch vehicle programs, 95.3; ETR, 91.7; Vandenberg AFB, 95.2, and Convair Service Center, 83.0.

Jack L. Bowers, Convair division general manager, and Dimmitt have expressed appreciation to campaign coordinators for their efforts in achievement of the goal.

"I fully realize that effective organization and a dedicated staff was necessary to assure this program was a success," Bowers said in a personal letter to each coordinator. "Please accept my thanks and appreciation for your efforts."

Campaign coordinators by organization, were John DeBlanc, community relations, marketing analysis and planning, military space programs, legal and contracts; Dimmitt and Paul Veal, industrial relations; G. W. Zahrte and Warren Jones, material; Roy Gilliland and Paul Benner, reliability; Fred Wyncoop, finance; Paul Ferrara, C. F. McMenamy and Bill Ochodnicky, research and engineering; Don Fagan, Jay Farrar, Frank Blair and Gerry Cox, operations; Paul Green, launch vehicle programs; K. E. Newton and Jay Freeman, ETR, and Roger Lynch and Marvin Tooley, VAFB.

Special Message Issued on Bonds

Your response to the 1968 Savings Bonds campaign is most gratifying.

Each of us can be proud of our association with an organization whose employes have indicated overwhelmingly that they believe in the soundness and effectiveness of Savings Bonds, and who have demonstrated this belief through personal commitment.

Our 94 per cent participation exceeds Convair's previous efforts by a substantial margin and to each of you I extend my personal thanks and congratulations.

Jack L. Bowers
General Manager

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

★ ★ ★

Q—Why am I forced to decide so far (three years) in advance of retirement as to survivorship option? The hazard to individuals in making a three-year prediction is obvious.

A—That was a requirement of the retirement plan as originally designed. Management is currently reviewing plan requirements and is considering a reduction in this period.

★ ★ ★

Q—With the government spending $30 billion a year on the war effort, why has Convair remained at about the same size? A large portion of the money has gone into repairing and replacing equipment destroyed in the war, and it seems inconceivable that with factories working two and three shifts and weekends across the country, Convair cannot compete on a straight time basis, with our existing facilities.

A case in point: the Navy is overhauling damaged aircraft at North Island, working nights and weekends. Couldn't we help by supplying hydraulic, electrical, pneumatic and structural inspections, repairing these systems, building test benches to speed up inspection, and disassembling components to speed inspection?

A—DOD expenditures totaled $68.5 billion in fiscal 1967. Of this, $27 billion was identified as costs directly attributable to the war. In the same year, contract awards for maintenance, modification, alteration, rebuilding and repair of aircraft totaled only a small percentage.

Convair has offered its services to the Navy at North Island,

(Continued on Page 6)

Get Facts About Cost Of Medical Treatment

Ever buy a car without asking the price? Ever buy **anything** without knowing the price?

Probably in only one area can this happen — and it does happen. That is when facing medical costs.

"If you are planning even minor surgery, ask the physician to spell out the charges. If there is an anesthetist or another doctor is involved, you should know it in advance and know the fee," Dr. G. M. Clarke, chief physician, advised.

"Physicians are glad to quote figures, in fact most of them encourage patients to ask so that there will be no ill feeling if the cost turns out to be more than they anticipated."

General Dynamics group insurance has standard allowances depending upon the operation or treatment, such as $187 for removal of an appendix and $68 for a tonsilectomy.

"If the surgeon quotes a higher sum it certainly couldn't hurt to point out that your insurance won't cover it completely and possibly more favorable arrangements could be made at this time," Clarke added.

Group insurance claims carry this advice: "Be sure services are necessary; discuss fee with your physician in advance; discuss with your hospital in advance the cost of accommodations and services."

Employes themselves have a direct financial stake in medical costs, particularly regarding dependents and when major medical becomes involved. With dependent insurance, if total Convair division claims are heavy, the cost of premiums the employe pays inevitably rises. In the case of major medical, the employe himself pays approximately 20 per cent of the expense, so it is to his advantage that costs are reasonable.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between June 1 and June 15.

Thirty-year: Dept. 566, J. T. Greacen.

Twenty-five year: Dept. 015, C. D. Monds; 027, W. D. Arrasmith; 045, G. Lopez; 142, A. N. Langston Jr.; 143, E. M. Truitt; 300, B. Jankowski; 511, A. W. Grindle; 732, R. E. Bourne; 832, J. R. King.

Twenty-year: Dept. 019, G. R. Wilcox; 027, F. P. Vining; 059, Sarah B. Serio; 130, R. J. West; 142, Ruth N. Rogers; 143, Johnie E. Hisaw; 250, G. W. Ashcok; 300, C. E. Howard; 524, Sarah B. Lasky; 563, R. C. Hager; 744, A. R. Seitz; 954, C. S. Kempff Jr.; 960, G. G. Congdon; 965, H. E. Pickett.

Fifteen-year: Dept. 016, Mary C. Stevens; 059, Lupe Blea; 113, W. J. Bullock; 190, J. J. Jodka; 198, R. L. Bolick; 250, B. L. Keim; 400, C. T. Tressler; 420, J. G. Hickey; 452, J. W. Palmer; 508, J. Hauser; 518, Mary F. Bruchez; 553, B. A. Penners; 583, Phyllis R. Eakin; 587, D. E. Roberts; 831, Ursula G. Garside; 832, Francisca M. Pumar; 833, R. D. Beare, J. Giamanco; 953, H. J. Martin; 954, O. D. Liebreich Jr., and Elinor A. Slater.

Ten-year: Dept. 002, S. E. Hutchinson; 015, F. J. Steglic; 059, Sarah Marvel; 113, Natalie B. Eddy; 143, Marian C. Franks; 250, Isabelle Vanderheiden; 401, Laura R. Henderson, A. L. Smith; 452, F. W. Buckman; 460, A. Price; 511, R. O. Morin; 516, B. M. Barton; 524, Patricia B. Hall; 531, W. J. Wallace; 574, J. A. Hicks; 583, G. Place, 584, G. H. Schadt; 589, D. T. Little; 820, Ruby H. Bridwell; 962, A. G. Haury; 966, J. F. Serafin; 979, D. E. Hawk, P. W. Heasley, T. S. Kaufmann, A. Majaika, J. J. Stocofsky; 988, W. F. Roosa; 985, C. E. Johnson.

ELECTRONICS

Twenty-five-year: Dept. 612, E. G. Brittain.

Twenty-year: Dept. 427, J. L. Burt.

Fifteen-year: Dept. 422, Lynn L. Schultz, G. W. Winchell; 426, A. D. Mouser; 465, F. S. Acomb, Opal L. Moore; 612, R. R. Christy.

In-Plant Training

ORIENTATION—

NEW EMPLOYES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Monday, June 17, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 14 auditorium, Tuesday, June 18, 8 p.m. for first shift; today, June 5, 4:30 p.m. for second shift.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF STUDY—A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Lost & Found

LOST—White gold heart-shaped necklace with diamond; fell from chain at KM plant. Sentimental value; reward for return. Phone Helen Parrish, ext. 2370 KM.

Deaths

BUCHANAN—C. E., Dept. 420-1, died May 18. Survivors include his wife, Dorothy, and a daughter, Mrs. Shirley Meacham.

MADDOX—Helen L., accounting technician in industrial accounting Dept. 193-1, died May 27. Survivors include three children, Billie E. Rowan, Joan Ann Moses and Ruby J. Kelley.

Awards

CONVAIR

Employe Suggestion awards approved for the week ending May 17.

Dept. 835, M. Alianelli, $38.00; 027, D. D. Axsom, $15.00; 578, R. E. Bailey, $23.00; 451, H. M. Black, $15.00; 045, J. Caldwell; 015, A. J. Capuccini, $25.50; 001, J. Chertkow, $9.20; 831, V. C. Cobb, $15.00; 049, H. C. Cook, $15.00; 562, J. P. Cox, $77.70; 015, H. A. Crane, $44.90; 588, F. L. Dohm, $15.00; 140, S. Engelman, $65.80; 059, D. Farley, $77.00; 015, J. Fattori, $12.20; 049, L. C. Foust, $15.00; 059, O. H. Fritz, $15.00; 045, J. C. Furtado, $9.15; 578, B. A. Ganoe, $23.00; 578, H. F. Guttmann, $38.00 (two awards); 001, S. Jachimowicz, $9.20; 401, K. L. Jackson, $15.00; 144, S. G. Jenkins, $7.50; 015, L. W. Kirkendall, $33.30; 016, M. E. Drogfus, $30.00; 578, G. Dugler, $24.00.

Dept. 835, J. F. L'Etourneau, $88.70; 001, E. C. Mackey, $7.50; 149, J. Makis, $90.60; 401, W. A. McGrew, $15.00; 045, C. W. Meinsen, $15.00; 401, L. V. Millerd, $15.00; 001, H. G. Mondy, $7.50; 195, V. A. Peck, $77.90; 027, L. F. Pendarvis, $30.00 (two awards); 015, I. Pischinger, $15.00; 113, R. D. Qua, $30.00; 195, W. J. Quackenbush, $15.00; 059, G. B. Reeves, $82.50; 756, G. R. Shirey, $15.00; 143, M. V. Sponsler, $15.00; 759, G. W. Stacy Jr., $15.00; 142, W. J. Steffen, $20.10; 031, F. J. Stolte, $29.50; 130, L. W. Tenwolde, $15.00; 015, L. W. Tracy, $25.50; 015, W. J. Wacklor, $127.10 (two awards); 144, D. C. Walker, $7.50; 015, D. L. Weelborg, $15.00; 761, R. L. Witt, $15.00; 524, V. T. Woods, $15.00; 149, A. R. Zullo, $136.80.

Employe Suggestion awards approved for the week ending May 24.

Dept. 979, R. A. Barker, $112.80; 143, F. A. Baugh, $26.00; 031, T. Castro, $117.00; 761, S. L. Cowley, $15.00; 401, C. H. Fenstermacher, $276.88; 059, H. K. Fowler, $15.00; 146, J. R. Frogge, $18.40; 101, J. K. Gaston, $19.40; 149, W. W. Graham, $69.50; 059, B. A. Harman, $212.80 (two awards); 027, E. Hofmann, $15.00 (two awards); 045, I. D. Howarter, $30.00; 588, J. A. Howland Jr., $15.00; 031, E. D. Ingold, $30.00; 027, J. L. Killeaney, $15.00; 840, L. Kramer, $7.50; 027, C. A. Krug, $7.50; 045, J. T. Kucala, $77.50; 027, A. J. Le Beau, $7.50; 300, A. Lintvedt, $276.88; 015, M. E. Long, $15.00; 507, W. H. Lowe, $75.60.

Dept. 045, C. R. Mansfield, $50.85; 401, J. F. McConnell, $7.50; 144, S. C. McFarland, $105.20; 027, J. F. Meller Jr., $15.00; 401, F. Morales, $29.30; 027, E. P. Osgood, $7.50; 027, E. W. Pagel, $53.50; 027, L. F. Pendarvis, $66.40 (two awards); 142, W. R. Pitts, $15.00; 733, E. E. Portillo, $15.00; 027, J. J. Rehm, $15.70 (two awards); 146, B. L. Roberts, $104.80; 831, J. D. Rogers, $15.00; 027, J. O. Sandage, $7.50; 045, R. M. Seiveno, $50.85; 101, J. E. Staton, $71.80; 027, F. H. Stine, $15.70 (two awards); 031, F. J. Stolte, $3.00; 840, E. Tieszen, $7.50; 401, J. E. Williams, $22.50 (two awards); 144, W. P. Wilson, $15.00; 027, M. J. Zaragoza, $15.00.

Retirements

CONVAIR

BLANCO—Ernest J., Dept. 250-5. Seniority date Sept. 21, 1950, retired May 6.

BROOKS—Leslie W., Dept. 979-1. Seniority date April 29, 1957, retired April 26.

CONAWAY—Carlton, Dept. 978-0. Seniority date Jan. 1, 1941, retired Oct. 8, 1967.

KEITH—Garvin, Dept. 146-4. Seniority date Feb. 12, 1959, retired Sept. 15, 1966.

NIEPONSKI — Mary A., Dept. 955-0. Seniority date Jan. 3, 1962, retired April 1.

SCHOLER—Frederick W., Dept. 590-0. Seniority date April 19, 1960, retired April 18.

TANONIS—Bruno J., Dept. 563-0. Seniority date April 22, 1941, retired April 22.

Personals

CONVAIR

The family of Dwight C. Heinz (Dept. 027) gratefully acknowledges your kind expression of sympathy, lovely floral remembrances and the many cards and messages.

Mrs. Dwight C. Heinz and family

* * *

I wish to thank all my friends for their expressions of sympathy following the death of my mother, Mrs. Ida Martinez.

George L. Zuniga
Dept. 250-5

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N. Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

You can buy U. S. Savings Bonds regularly for as little as 50 cents a week.

Reid Shifts to Datagraphics

E. J. Reid, Interagency Data Exchange Program (IDEP) representative at Convair division's Kearny Mesa plant for the past three years, has been re-elected to a two-year term on the 14-member IDEP Contractor Advisory Board.

Reid transferred to Stromberg Datagraphics Inc. this week and will implement a new IDEP system for employes of its facilities in the San Diego area.

IDEP representative's duties at Kearny Mesa are being assumed by W. C. Hansen. W. L. Johnston is Convair IDEP representative at LF and E. D. Newberry is representative at Electronics-SD.

As a Contractor Advisory Board member, Reid will serve on study committees on "data link" systems for Department of Defense and NASA data files, storage and retrieval of data, and access coding.

Jack L. Bowers, Convair general manager, recently received a letter from Daniel E. Negola, a NASA representative and chairman of the IDEP Policy Board, expressing appreciation for "exemplary cooperation and assistance" rendered by the division through Reid's previous service on Contractor Advisory Board committees.

Four Receive NASA Awards

Four Convair division personnel have received $25 NASA awards for having submitted information on innovations that have been published as NASA Tech Briefs.

Recipients, department numbers, and titles of the Tech Briefs are:

William T. Hollar, 141-0, "Steel test panel helps control additives in pyrophosphate copper plating."

Richard E. Cree, 967-4, "Test device prevents weld joint damage by eliminating axial pin forces on uspotted modules."

John W. Routson, 578-1, "Pressure levels and pulsation frequencies can be varied on high pressure/frequency testing device."

Joseph Frankowski, 572-1, "Polarized light reveals stress in machined laminated plastics."

New Division Formed At Lewis Research

NASA's Lewis Research Center has consolidated its Centaur, Atlas and Agena project offices into a new Launch Vehicles Division headed by Edmund R. Jonash, formerly chief of the Centaur project office.

William R. Dunbar has been named project manager for Centaur. Edward F. Baehr continues as project manager for Atlas.

Other major organizational changes, reflecting growing emphasis on aeronautics, included establishment of:

1. A Special Projects Division for research on reduction of jet engine noise and problems of vertical and short takeoff and landing of aircraft.

2. A Wind Tunnel and Flight Division for studies of aerodynamic aspects of flight vehicles with emphasis on propulsion problems.

3. An Aerospace Safety Research and Data Institute.

QC Section to Meet June 10 in La Mesa

Edward O'Connell of Western Electric Co. will discuss "Quality and Cost Control in Engineering Products and Processes" Monday (June 10) at a meeting of the San Diego Section of the American Society for Quality Control in the Bronze Room, La Mesa.

Members from the DCAS plant representative's office at Kearny Mesa are sponsors. A. E. Hinck will moderate. Dinner tickets can be obtained by calling C. L. Marks, booster chairman, ext. 2370 KM.



APPRECIATION—A. A. Denton, left, vice president of International Guiding Eyes, Inc., hands plaque for Convair Employes' Con-Trib-Club to James K. Field, right, chairman, as A. J. Cali and H. W. Fuller of Con-Trib committee look on. Plaque was in appreciation for Con-Trib financial support.

'Guiding Eyes' Thanks Con-Trib For Funds, Presents Plaque

International Guiding Eyes, Inc., which trains and gives German shepherd guide dogs to the blind in California, has presented a plaque to the Convair Employes' Con-Trib-Club in "grateful appreciation" for $1,500 in financial assistance.

A. A. Denton, vice president of International Guiding Eyes and secretary-treasurer of International Association of Machinists (IAM) unions in San Diego, presented the plaque in ceremonies May 23.

Accepting for Con-Trib-Club were James K. Field, chairman; A. J. Cali, IAM representative; H. W. Fuller, management representative. The IAM supports guide dogs for the blind programs at both national and local level.

International Guiding Eyes, Inc., was established in 1948 and has provided 380 trained dogs for the blind — none of which have had to be returned for retraining. Twenty-four dogs are now being trained each year.

RMS-2 Range System Field Tested For Army

(Continued from Page 1)

sages" are sent and received between the central control unit and transponder units in the field at the rate of 200,000 information "bits" per second.

A "round count" device linking the soldier's weapon to his backpack transponder provides information on number of "bullets" he is firing. This data also is transmitted to the central computer.

C. E. "Chuck" Wilson, Convair RMS-2 program manager, said the four-day test at Hunter Liggett "proved out" communications and range measurement accuracy of the system to distances of more than seven miles—about 30 per cent farther than the contractual requirement.

Ranging and communications tests were made from both known and unknown distances and movements of units over wide areas were directed without voice communication.

Wilson said one minor change is being incorporated in the system as a result of the field tests to minimize unexpectedly high radar-type reflection of signal transmissions from surrounding hills.

Conducting the field tests for Convair were Wilson, Eric Herz, L. E. "Ed" Thomas, Willard Cushman, Jim Baggiore, Len Clough, Pete Marenholtz, Art Jenkins and Paul Moallankamp.

Division officials present to observe were C. W. Blakey, director of contracts; W. T. Dorrance, director of special programs for the research and engineering department; and Orison Wade, chief design engineer-electronics systems.

Col. B. L. Branson, CDCEC deputy commander, and Col. A. F. Mitchell, instrumentation support group commander, were among military officials observing.

Delivery of the RMS-2 central control unit to CDCEC for use with an Army GE-605 computer is scheduled July 22. Twenty-five transponder units, 23 interrogation stations and two distribution stations are scheduled for delivery in August.

Operational exercises and acceptance tests for the units are scheduled through October at Hunter Liggett.

Former Allied Spy to Address Management Club on June 12

Countess Maria Pulaski will recount some of her adventures as a World War II Allied spy in Germany at the Convair Management Club's "Ladies Night" dinner meeting next Wednesday (June 12) in the Atlantis restaurant.

The meeting will be sponsored by reliability control departments. Attendance will be limited to 500 and tickets are being sold by Management Club boosters at $3.50 each.

Strolling violinists will entertain during the dinner, which will be served at candle-lit tables. The Atlantis is located adjacent to Sea World on Mission Bay.

Social hour is 5:30 p.m., dinner at 6:30. Entree will be a "Sea World combination" of hickory-broiled chicken and lobster tail.

Countess Pulaski, a graduate of the University of Warsaw, was in Poland when it was invaded by the Nazis and later escaped to England.

The Countess will be going from San Diego to Hollywood, where a motion picture is scheduled to be made on her life as a spy.

Highlighting the June meeting will be installation of new officers.

Toastmasters Hear About Exec. Program

Cy Campbell, Dept. 985-8, an international director of Toastmasters Int., presented a new executive development program recently at a regional conference at Fresno attended by representatives of nine Toastmaster districts.

Durwood English, Dept. 954-2, new senior lieutenant governor of District 5, also participated.



SATELLITE DISPENSER—Model of satellite dispenser for which Convair has been issued patent is examined by E. H. Wrench, left, one of six division personnel who created design, and H. M. Ikerd, engineering staff specialist who was project manager for study in which concept originated.

Convair Given Patent On Satellite Concept

The U. S. Patent Office has issued Convair a patent for a satellite spin dispenser concept created by six division scientists and engineers in 1964.

Use of such a dispenser would permit release of several small satellites at selective spinning speeds after the dispenser has been released in orbit by an Atlas or other booster vehicle.

The novel dispenser was designed by Edwin H. Wrench, now a Dept. 596-0 staff scientist; Robert A. Close and William E. Gibb, both now Convair Dept. 511-1 senior structural-mechanical engineers on temporary assignment at the McDonnell-Douglas aircraft division in Long Beach; and Erik C. Lindkvist, Barry A. Mendoza and John Ford.

Howard M. Ikerd, now a Convair Dept. 506-1 engineering staff specialist, was project manager for a military communications satellite study on which the team was working when the design was created.

Each of the small satellites would be secured to the dispenser at two points.

At desired release time, one side of each satellite would be released by ground command, permitting the satellite to swing away by centrifugal force and rotate faster than the dispenser.

As the satellite rotates through a pre-determined angle, the final release mechanism would retract to deploy the satellite into space at desired spinning speed.

A small propulsion module in each satellite could be used for "station keeping" while it is in orbit.

The patent was issued to Convair on April 30. The satellite dispenser concept was described May 4 in a "patents of the week" feature in The New York Times.

Any number of satellites could be used with such a dispenser — with the number depending on mission requirements and space available inside heat-shield fairings being used for the launch.

A model of the dispenser created in conjunction with the initial study incorporated models of eight octagon-shaped satellites. Drawings submitted with the patent application showed the dispenser mechanism with four satellites.

Electronics 'Detector' System Seen As Having Commercial Possibilities

WEED AN/GSS-16, a "personnel intrusion detection" system developed by Electronics division and intended for use by the military to guard against enemy infiltration, has been attracting a lot of non-military interest.

"We have even had an inquiry from the Wildlife Department in the State of New York," said John MacInnes, product manager, special projects at San Diego. "They want to use it for counting deer!"

WEED is an electronic device consisting of two units, a transmitter and a receiver. The transmitter is small, not much larger than a pen flashlight, and has a sharp base for insertion into the ground, and a rod which serves as an antenna. The name WEED is derived from the fact that the transmitter can easily be disguised as a growing plant when placed upright in the ground and covered with plastic leaves.

The receiver can be remotely located up to a mile or two away from the transmitter, and picks up the transmitter's signal whenever a person approaches within 100 feet, or a vehicle within 200 feet of the transmitter. The receiver gives an indication of the speed of movement and proximity of the intruder by a variable tone or a flashing light.

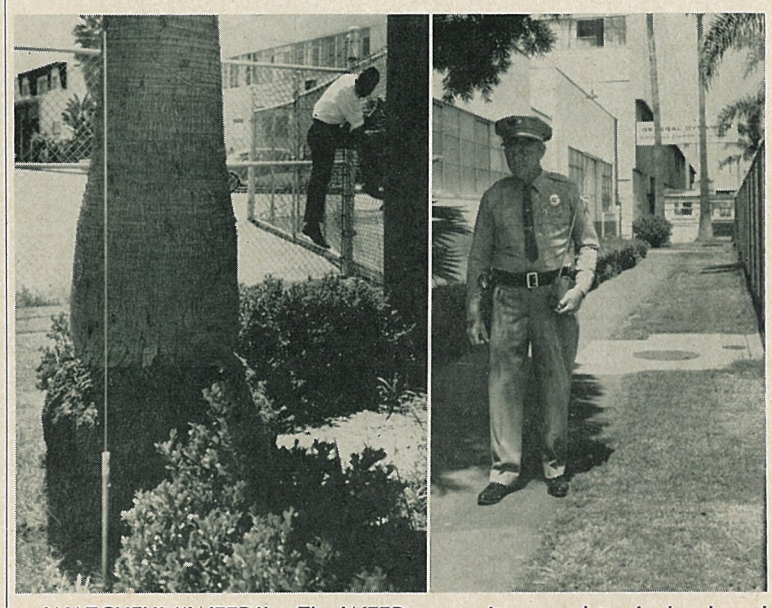
MacInnes said that the division has received numerous inquiries from foreign governments, city and state organizations, and from industry.

"It has many possible uses in addition to its present military applications," said MacInnes. "For instance, it can be used in industry for guarding warehouses and large storage areas. A number of transmitters placed around a building or an area and monitored by a single guard could replace several other guards, and provide more effective surveillance.

"Also, in police work such as monitoring movement in and out of a building, a transmitter could be placed at a strategic spot in the building, and monitored in a police car several blocks away. The transmitter can be easily hidden, such as in a pack of cigarettes, or in the handle of a shovel."

MacInnes said that plans for marketing the WEED system commercially depend on an analysis of the possible market.

The original system is in use, but more sophisticated versions of WEED are under development.



WATCHFUL "WEED"—The WEED transmitter, unobtrusively placed behind tree trunk in left photo, detects presence of intruder as he climbs fence. Warning signal is received by guard some distance away.

Unbeatable

Card-Playing Computer Built With Pinball, TV Set Parts

Tom Brentnall, son of Mr. and Mrs. T. E. Brentnall (he's Dept. 5 at Pomona division), dismantled an old coin-operated bowling game machine and used many of its parts along with components from discarded television sets, washing machines and telephones and won a sweepstakes prize in math for his "Las Vegas computer" that plays "21."

The computer cost less than $10 but Tom put a year's work into the project. Since the Orange County Science Fair last year when he won second place with a logic demonstrator, he had set his sights on first this year.

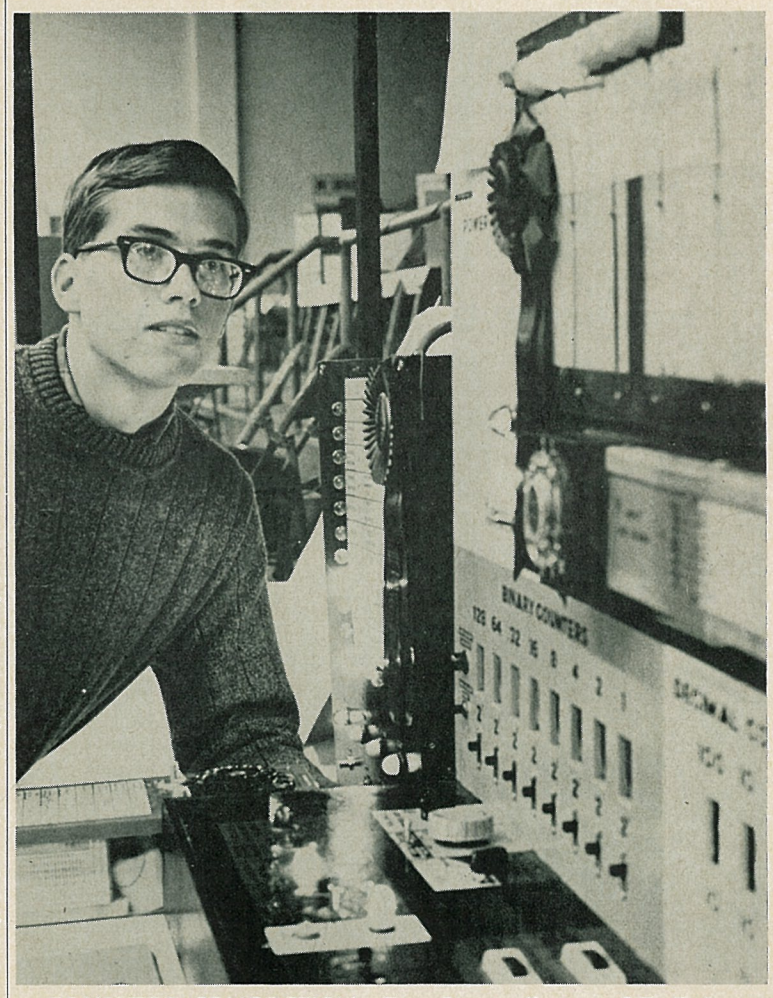
Tom did lift one other component from an automatic garage door opener so that he can operate his Las Vegas computer from as far away as 100 feet. When in operation the machine flashes lights and makes "ding-dong" sounds.

You can't beat the machine at "21" and it's also programmed to play another game in which the operator chooses a number and sorts out all cards on which the number appears. The machine reports which number is missing.

Tom's winning entry began its public display at the science fair May 8-12 and went on to represent Orange County in California State Science Fair at the Sports Arena near University of Southern California campus, Los Angeles, last week.

In addition to the sweepstakes award, Tom received a first place award from the American Institute of Aeronautics and Astronautics and an invitation to display the computer at a national convention of Council of Mathematics Teachers next February.

The Newport Harbor High School senior intends to major in physics at Harvey Mudd College.



COMPUTOR CONCOCTION—Tom Brentnall, son of T. E. Brentnall (Dept. 5), combined parts of discarded television sets, washing machines, telephones and an old pinball machine with an automatic garage door opener and won sweepstakes prize in math at recent Orange County (Calif.) Science Fair.

Supplier Group Inspects F-111

How can a subcontractor convince its employes that their work is vital to the F-111 program? Show them.

At least this was the approach taken by Texas Instruments Inc., manufacturer of parts for the F-111's terrain-following system.

About 175 TI employes visited the Fort Worth division recently for an inspection and orientation on the variable-wing fighter.

Major Tom Wheeler of AF flight operations told the audience how flyers rely on the TFR in daily routine flights in the F-111.

"His remarks seemed to have considerable impact on the audience," said Robert Kahn, manager of material F-111.

Other talks were made by W. L. Evans, manager of radar and navigation; Dr. N. H. Simpson, director 111 quality assurance; G. I. Davis, assistant to program director F-111.

Warm Water 'Aquafarms' Seen As Boost to Fishing Industry

More than 40 million pounds of warm water species of fish could be realized annually from "aquafarms" in Connecticut, according to a report prepared by Electric Boat division for the Connecticut Research Commission.

Dr. Richard J. Benoit, chief of marine sciences, research and development at EB, says that such a yield of fast-growing shellfish, crustaceans and finfish could result from harnessing the heated water discharged from the new Connecticut Yankee and Millstone Point nuclear-powered electrical generating stations.

According to Dr. Benoit, the combined effluent of both power stations (790,000 gallons per minute) would be sufficient to produce 39.5 million pounds of fish annually — based on present day cold water trout industry yields. However, this figure could be considerably exceeded by the warm water cultivation of shellfish, shrimp, pompano and catfish. Within the physiological limits of each species, the growth rate of these fish approximately doubles for a ten-degree increase in water temperature.

In recent years, the Connecticut fishing industry has declined to the point where there is an annual yield of only about 1.4 million pounds of shellfish and four million pounds of finfish. Despite an estimated state demand for 26.5 million pounds of fish annually, more than 50 per cent of the shellfish yield and 10 per cent of the finfish yield are shipped to consumers out of state.

The largest single industrial use of water, the report points out, is for cooling, in which vast quantities are discharged into natural bodies of fresh and salt water. The electrical generating industry, moreover, is the foremost industrial user of water — and "reusing" this water for controlled cultivation of freshwater and marine animals is compatible with the national goal of increasing food production through marine aquiculture.

The General Dynamics report concludes that the economic potential of such aquafarms could not be fully evaluated without experimentation and pilot plant appraisal.

"However," says Dr. Benoit, aquafarms are promising as economic enterprises and represent some of the most exciting and encouraging aspects of marine biology for the future."



"May I come in through the kitchen door if I only step on the black squares."

You can buy U. S. Savings Bonds regularly for as little as 50 cents a week.

Nerve System of an Airplane: A report from General Dynamics

Next time you take a trip in your car, try to drive there without steering wheel, accelerator or brakes.

Impossible, of course. They are vital to the job. Without them, the car won't do what it must, even though the chassis, body, motor, power train, tires, fuel, driver—and passengers—are all there.

The function of any vehicle is to deliver something from one place to another. The family car is a passenger-delivering system. A military aircraft is a weapons-delivering system. Avionics are vital to that job.

Extending human will:

In a modern military aircraft, the human crew is the intellect and the will. Avionics—or what used to be called aviation-electronics—are its nervous system, extending the human will through machines for tasks that require accurate control, sustained precise effort, or ultra-fast computation.

Here are some of the things current avionics do:

- Provide exact and unjammable navigation.
- Help the crew fly smoothly and safely, so low that detection and tracking capability of enemy radar will be sharply reduced, or so high and fast that it can circumvent other forms of attack.
- Assist the easy transition from one flight regime to another.
- Detect potential sources of attack from air or ground.
- Help fire any combination of weaponry with precision.

The F-111 fighter-bomber being built by General Dynamics is a case in point.

The F-111's variable-sweep wing, which makes it possible to redesign the aircraft *in flight,* is one of the great aerodynamic advances.

This airplane can fly fast or slow; 12 miles high or skimming the treetops; drift through the air for hours, or attack at two and a half times the speed of sound; ferry itself across an ocean without refueling, and land or take off from rough tactical fields in short distances.

All in all, it is the most versatile aircraft ever designed.

But first and foremost it is a weapons-delivery system. Its avionics, much more sophisticated than those of earlier airplanes, are a good indication of what is required nowadays.

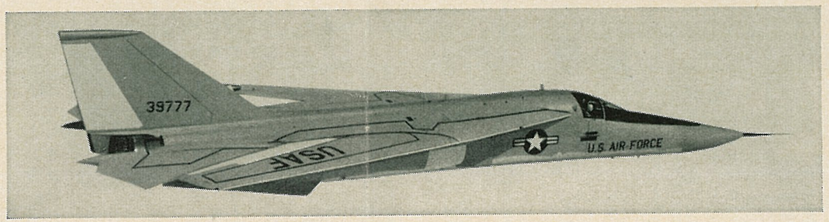
A generation ago, aviation-electronics consisted mainly of radio. Today's avionics include a large assortment of separate systems which are segments of a larger fully integrated electronic system. This, in turn, is integrated with the airframe, the engines and weaponry. To see how it ties together, look at a few of the F-111's avionics parts.

The triply redundant, self-adaptive flight-control system relates directly to the unique ability of the F-111 to vary the way it flies.

A complex of electronic sensors and computers measures motions of the aircraft and commands, through hydraulic and mechanical components, any necessary compensation to control surfaces.

In case of sudden change in atmospheric conditions (i.e., clear air turbulence or strong gusts), or rapid shift in altitude or direction, the self-adaptive flight-control system will automatically make any necessary adjustments for pitch, roll or yaw—often before pilots even know they are needed.

When wings change position, changes in other control surfaces take place simultaneously. The plane never loses its desirable flying qualities at any speed, or change in speed, from takeoff through Mach 2.5.



An inertial navigation system eliminates the uncertainties inherent in earlier magnetic-compass, radio or radar navigation techniques.

The inertial system measures every inch of passage, fluctuation in direction or change in speed. At any given moment, the pilot knows precisely where he is in relation to his takeoff point, his target and his return base.

"Hideability":

Terrain-following radar (TFR) improves mission efficiency.

A fast low-flying airplane which can be "seen" only fleetingly is troublesome for ground search radar. For maximum "hideability," the aircraft's terrain-following radar can be set at an optimum clearance close to the ground. The plane can now dip into the valleys and skim the peaks at supersonic speed in any weather, day or night. It can keep on a direct path, yet make the enemy's problem of detection far more difficult.

The TFR constantly looks both down and ahead, and relays its information to the self-adaptive control system. The complex adjusts the entire aircraft far faster than could unassisted human reflexes. Even over particularly jagged territory, the ride is relatively smooth.

The pilot can fly through zero visibility, protected against physical obstructions ahead. Should any of the TFR's circuits fail, the overall avionic system is programmed to put the aircraft automatically into a very sharp climb to higher altitude.

The ultimate function of the F-111, however, is the delivery of weapons—a mix of many types, long and short-range, for defense and attack, with different methods of firing. This calls for three closely related systems.

Finding a target:

A bomb/navigation system, connected to every weapon, constantly measures the plane's speed, altitude, attitude and position. These are computed against information, already stored, on the particular drop or firing pattern of each weapon and the location of the target.

A "head-up" system projects flight and other data, in color bar form, to a transparent reflective plate at pilot's eye level. Through it, he can see all the information necessary to fire guns and missiles without moving his eyes from the target itself.

To extend his sight in bad weather or at night, *high resolution ground mapping radar* provides a clear picture of the terrain or of airborne targets, simultaneously reporting the changing range between plane and target.

With these reinforcing the pilot's judgment, the specific weapon needed can be released, manually or automatically, at the split second when it is most likely to hit its target exactly.

Each of the "separate" systems has a distinct job, yet all are, to some degree, interdependent. For maximum reliability, self-test devices check, before and all during flight, for any malfunction. Should one occur, the "work" can be shifted quickly to back-up equipment—and assure that the mission will not be impaired.

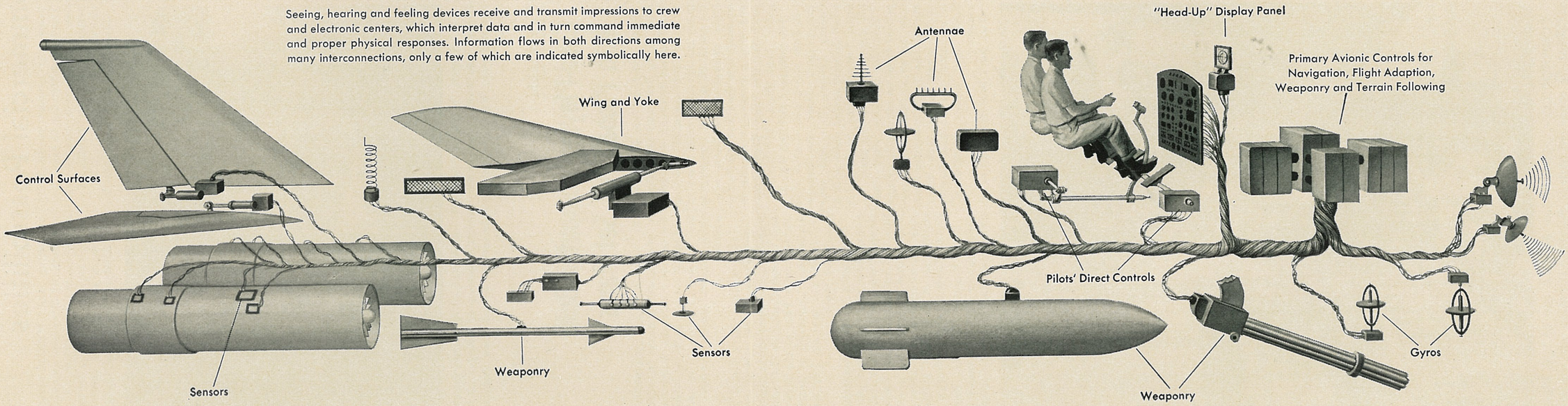
Even though the current avionic systems are advanced over anything that has gone before, newer and improved versions are already being jointly developed by General Dynamics and its many subcontractors who produce the individual systems that make up the whole.

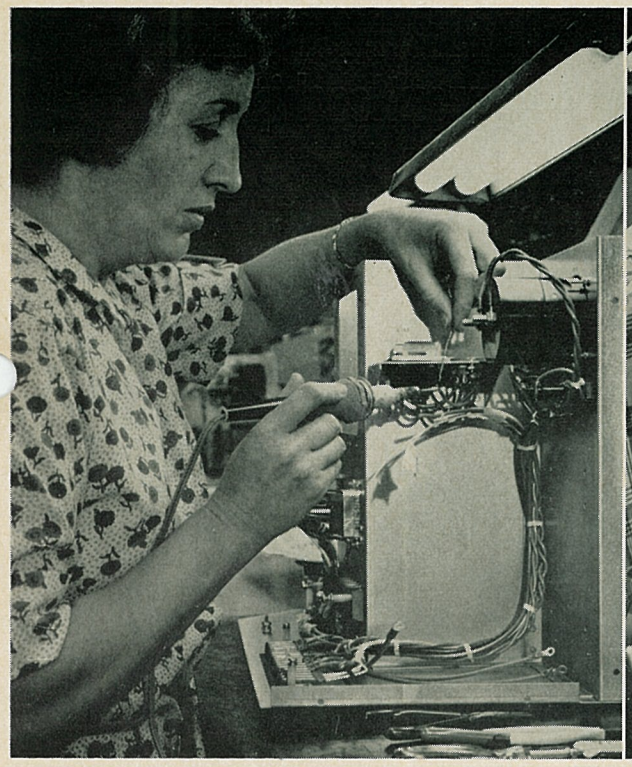
General Dynamics is a company of scientists, engineers and skilled workers whose interests cover every major field of technology, and who produce: aircraft; marine, space and missile systems; tactical support equipment; nuclear, electronic, and communications systems; machinery; building supplies; coal, gases.

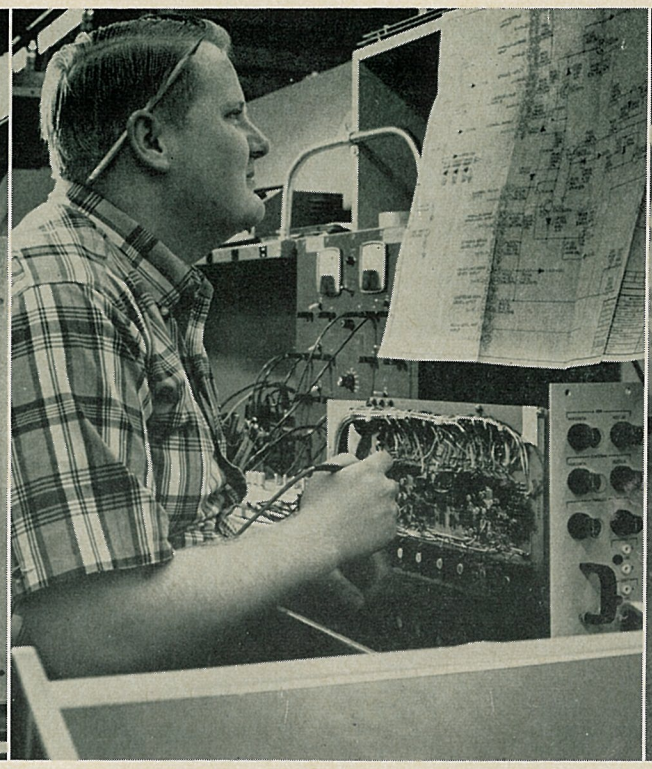
Reprints of this series are available.

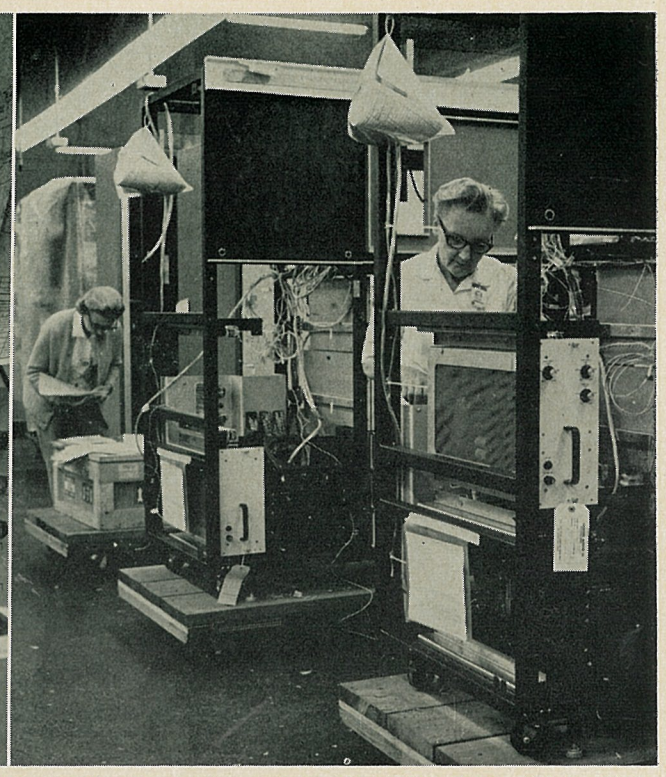
GENERAL DYNAMICS
One Rockefeller Plaza, New York, New York 10020

Seeing, hearing and feeling devices receive and transmit impressions to crew and electronic centers, which interpret data and in turn command immediate and proper physical responses. Information flows in both directions among many interconnections, only a few of which are indicated symbolically here.

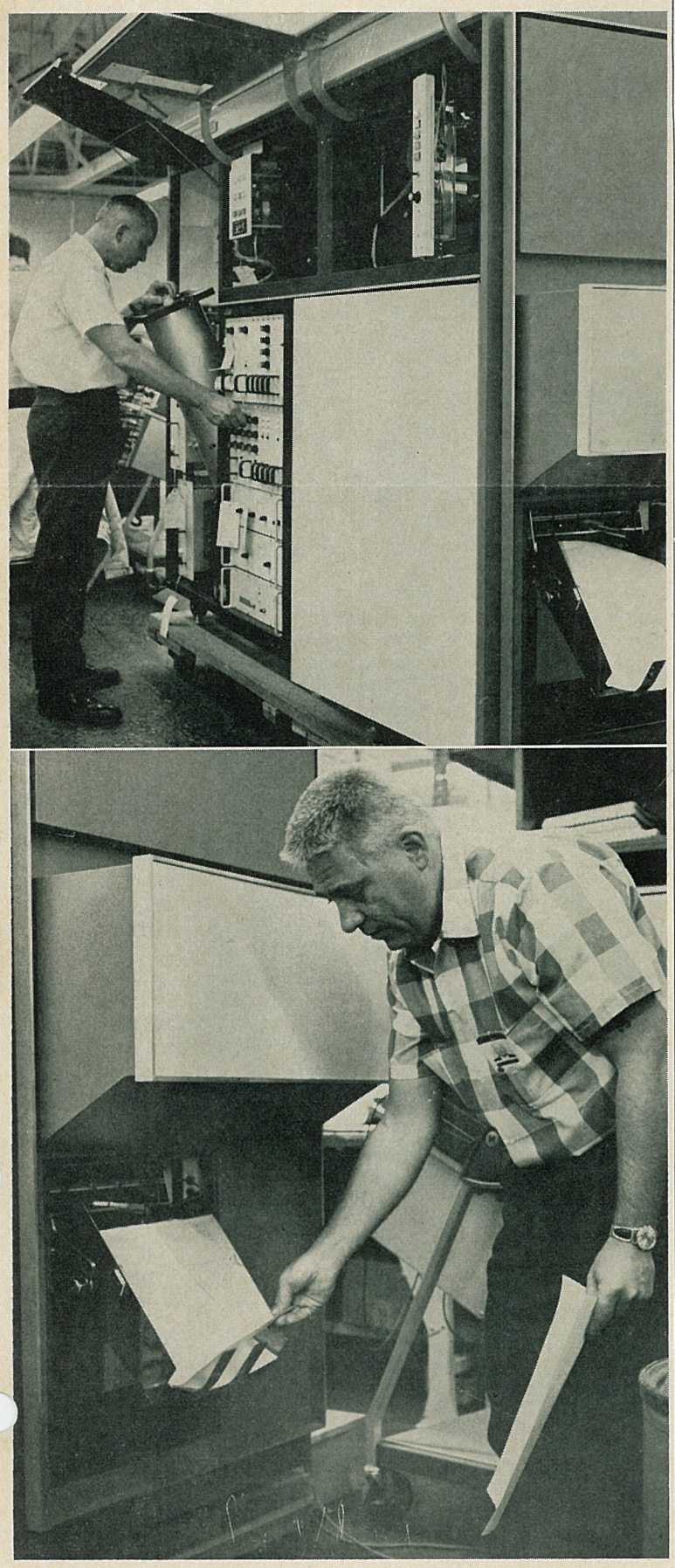








PRECISE WORK—Skill and precision are required to perform hundreds of detailed tasks necessary to assemble micromation printer. In left photo, Dorothy Dempsey, assembler, is soldering an electrical connection. David Reavis (center photo) is using a wiring diagram to check soldered connections in DC amplifier which will be used in S-D 4060 micromation printer. In right photo, Adele Christiansen, electronics assembler, is installing an electronic component in printer chassis while in background M. E. Knowles, inspector, checks packing list. Printer translates data onto microfilm or hard copy.



CAREFUL CHECKING—Before a completed micromation printer is shipped to customer, many hours are spent in careful checking and adjustment. Phil Taylor, test technician (upper photo), is using magnifying glass as he adjusts a CHARACTRON® tube. In lower photo John Zech, hard copy technician, inspects hard copy of test patterns that have just been printed by an S-D 4060 micromation printer. Micromation method has proved an advancement of great value to activities using computers everywhere. System makes it possible to retrieve in a comparatively short length of time vast amounts of data stored in computers. Speedy retrieval reduces time computer is tied up, freeing it for other work.

Datagraphics' Micromation Method Proves Boon to Computer Users

Stromberg Datagraphics' micromation method solves a problem that has long plagued computer users—how to retrieve in a reasonable time the vast quantities of data stored in a computer.

Conventional readout of computer-stored information is made by translating computer tape signals directly to alphanumeric symbols printed on paper. This process, as compared to a computer's speed in processing data is slow, and the computer is tied up in the laborious process of printing during the readout.

"The micromation method frees a computer from being a printing press and lets it do the job it is designed for—processing and storing data," said Meade Camp, director of marketing.

"That is why Datagraphics equipment, particularly the S-D 4060 micromation printer, is being put to use alongside so many computers in business and industry today."

The S-D 4060 micromation printer can take output from a computer, either directly, or in the form of tape, and translate the data into readable information on microfilm or hard copy. The microfilm can be viewed in a microfilm viewer and if copy is needed, the machine can make a print.

The key component of the S-D 4060 and of other similar micromation printers made by Datagraphics is a CHARACTRON® shaped beam tube. This cathode ray tube translates magnetic signals stored on tape to letters, numerals and symbols which are then transferred to microfilm by the shaped beam of the tube. This is done at extremely rapid speeds, up to 90,000 characters per second.

A typical example of the micromation method's speed in processing data would be the extraction of a 15,000 page report, 10 copies, from data stored in a computer. Using the conventional printout method, the report would take 40 hours to print, decollate and bind, and would end up as 125 three-inch books weighing a total of 1,0000 pounds.

Using the micromation method, all 10 copies could be made in 4 hours and distributed by hand in a package no larger than a cigar box.

Among the users of the micromation method is the Internal Revenue Service. They have found that data retrieval is simpler, and easier on data clerks. Formerly a clerk had to process data from three-pound volumes, moving as much as three tons of paper a day on and off shelves. Now, with the data on microfilm, a single 8-ounce cartridge represents four of the paper ledgers, and it takes only about two minutes to locate a specific line of information on a given cartridge.

Equitable Life Assurance Co. is typical of the many large companies that have found the micromation method profitable to use. They report that use of the computer/recorder/microfilm system to be up to 15% lower in cost than the computer-only system. They also say that record retrieval can be made in less than one minute, while the computer system alone required overnight printout services.

SWARNER SPEAKS ON AIS PROGRAM

Clair N. Swarner, a design specialist in the Electronics-SD data systems and analysis laboratory, presented a paper on the "Apollo Instrumentation Ships program" May 17 at the San Diego Council of Data Processing Societies' fourth annual symposium in San Diego.

'Bursting at Seams' Again, Datagraphics Expands

Stromberg Datagraphics added another 25,000 square feet to their manufacturing capabilities in May when they moved into a new facility at 525 E. Main St. in El Cajon.

The move was to a recently refurbished building located about a mile east of Datagraphics' El Cajon plant at 698 W. Main St.

"We have moved our peripheral assembly line to the new location, along with certain other production activities, to make room for much-needed assembly space for our micromation printers, and an important military display contract," said George Achtmeyer, manager of operations.

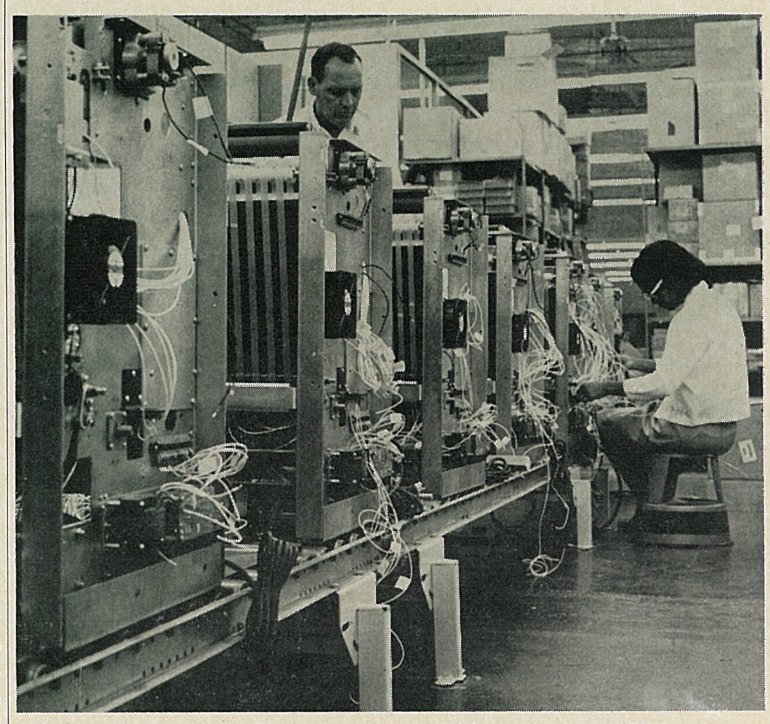
Achtmeyer said that increased sales of micromation printers and related equipment have pushed the original facility estimates beyond their former expectations.

"We have been in the El Cajon plant a little over a year now," he said. "We started with 100 employes then, and we were up to 327 when we expanded into the new facility. We were bursting at the seams."

Total employment at the two El Cajon facilities is expected to reach around 600 by the end of the year.

The main El Cajon plant is now devoted to assembly of the principal items of the micromation line of equipment, among them being the S-D 4060 and the S-D 4360 micromation printers, and the S-D 4300 hard copy printer. In addition, the main plant houses the production of military display hardware.

The new facility will assemble the peripheral units of the micromation line which are smaller items of equipment necessary for use with the micromation printers. These items include the S-D 1700 microfilm and the S-D 1325 microfiche inquiry stations, and the S-D 3500 demand hard copy printer.



ASSEMBLY LINE—Bud Lynn (left) and Rose Lowe, assemblers, are installing components on line of S-D 3500 hard copy printer frames. The S-D 3500 is one of the peripheral units now being assembled at the new facility in El Cajon.



OPERATORS MEET—Ralph "Stub" Roberts, manager of engineering, North Central Airlines, addresses Air Transport Association Convair Maintenance and Engineering Conference. Seated on rostrum are: L. J. Bordelon (left), manager of commercial customer requirements, Convair; Bill Pepler, director of engineering for Allegheny Air Lines; Roberts; Art Savard, project coordinator, Convair; O. W. Harper, manager of customer service, Convair.

Airline Reps and Suppliers Attend Maintenance Talks

More than 100 airline representatives and suppliers attended the annual Air Transport Association Convair Maintenance and Engineering Conference May 21-22 in San Diego.

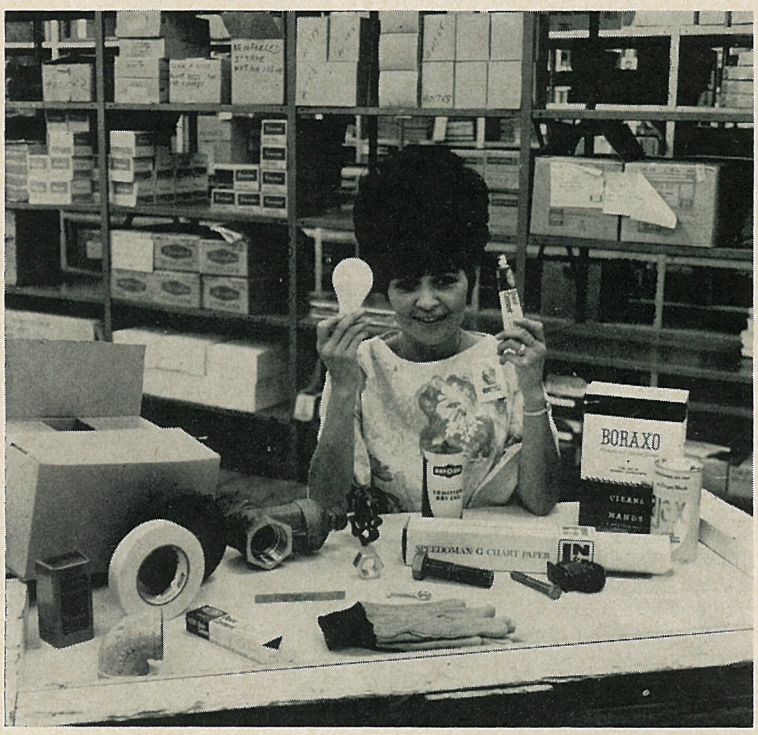
The two-day meeting, hosted by Convair for operators of the Convair 240/340/440/600/640 twin engine transports, included representatives of the Federal Aviation Agency as well as users of military versions of the airplane. The Air Transport Association was represented by Ed Thomas from Washington D. C.

"These annual meetings afford us an opportunity to keep in touch with operators and it gives them a chance to meet suppliers and to work out mutual problems," said L. J. Bordelon, manager of commercial customer requirements.

Among topics discussed was proposed government regulations for crash worthiness as it affects twin engine transport operators.

CLUB PLANNING MUSIC PROGRAM

J. C. Moore will present slides and recordings at a meeting of the CRA Hi/Fi and Music club at 7:30 p.m. Tuesday (June 11) in Room A of the CRA Clubhouse. Prospective new members are invited.



OPERATING SUPPLIES—Mary Labastida of Dept. 027 at AF Plant 19 displays examples of operating supplies. Conservation Program goal is to reduce budgeted cost for such items by $235,000 this year.

Quarter Million Dollar Cut In 'Operating Supplies' Sought

Operating supplies — ranging from cardboard cartons and light bulbs to nuts and bolts — form one of six categories in which Convair division hopes to reduce budgeted expenditures by an aggregate of a million dollars this year.

Reduction of budgeted costs for operating supplies by $235,000 is one of the division's Conservation Program goals for the year. Goal for the operating supplies category for the first quarter of the year was achieved.

Among operating supplies are film, cardboard cartons, chart and map paper, plastic bags, soap, webbing, batteries, valves, bushings, conduit fittings, tape, flashlight and lamp bulbs, fuses, pipe elbows, screws, bolts, nuts, cement, castors, switches, plastic caps, electrical clips, gloves, polishes, cleaners and scores of other items required for routine departmental use.

Stationary and similar office supplies are not included in the category.

All departments have been requested by the material department to update procurement authorization cards and to estimate their annual requirements for operating supplies so volume purchase agreements may be executed for cost savings.

The operations department has restricted authority to approve material stores requisitions to supervision and has taken action to optimize stockroom operations and control procedures.

Tropical Fish Club To Complete Movie

Last half of the motion picture film "The Restless Sea" will be shown at 7 p.m. Monday (June 10) at the CRA Tropical Fish Club meeting in CRA Clubhouse.

Raffle winners at the May 13 meeting were Louis Heyn, John Madryga, Cindy and Jan Rowe, Kathy La Rose, Margaret Polakowski, Larry and Donna Vest and Ray Colbert.

Five members of the club are building new tanks in the club's workshop. Stainless steel, wood and glass are available through the club at reduced price and a spot-welder and other equipment are available in the workshop.

COPTER PILOT WILL SPEAK

Len Dolan, KFMB "Clancy" traffic copter pilot, will speak and show slides at a CRA Bonair Flyers club meeting at 7:30 p.m. tomorrow June 6, CRA clubhouse.



ESCAPE — Micarda-laminate hammer head snapped in two recently and part of it struck Dorian Drake of Dept. 732-0, Kearny Mesa. He was uninjured, though, thanks to safety glasses.

Vanden Bulck New ETR Mgt. Club Head

C. F. Vanden Bulck, Dept. 979-1, has been elected president of the Convair Management Club at the Eastern Test Range for the 1968-69 term.

Other officers are S. K. Baker Jr., first vice president; L. Gross, second vice president; R. E. Finley, secretary; R. L. Rondeau, treasurer.

Board of Control members elected were (two years) R. L. Andre and L. H. Turcot and (one year) J. N. Freeman, W. L. Holley, J. L. Kettring, J. C. Littlefield, K. N. McCarty, J. L. Winfrey, Q. E. Gilmore.

Management Course Offered at State

Employes working toward a master's degree in business administration at San Diego State College are advised that a six-week "Business organization and management" course will be offered from 7 to 8:15 a.m. weekdays at the college beginning June 24.

The course is a prerequisite for many higher-level courses offered in the degree program. Employes may make application for an irregular 40-hour work week through educational services offices.

Germeraad Talk Scheduled June 14

Don Germeraad, manager of program development for Lockheed Missiles and Space Co., will discuss "Aerospace Applications to Ocean Systems Technology" at a meeting of the San Diego section of the Society of Aeronautical Weight Engineers (SAWE) June 14 at the Bronze Room in La Mesa.

New officers also will be installed. Dinner reservations can be made until June 12 by phoning Mrs. Jeweline Richardson, ext. 2297 KM.

John Tattoli Wins First Place In County Apprenticeship

John T. Tattoli, a Convair apprentice machinist at Lindbergh Field, recently won first place in the San Diego County Machinist Apprenticeship contest for 1968.

Tattoli won a day-long contest conducted at San Diego City College machine shop in which he and other senior apprentices were required to lay out and machine a part, working on their own from a drawing. Quality control engineers and a shop foreman were judges.

The award plaque was presented to Tattoli at the annual Apprenticeship Completion Ceremony and Banquet May 22 at the El Cortez Hotel.

Also honored at the same ceremony were six Convair apprentices who received certificates of completion of their apprenticeship program at the San Diego Evening College. Receiving certificates were: Kory L. Bratlien, Dale L. Brown and S. Kieth Willis, electronics technician; Robert B. Howe, machinist; James Morris, plaster pattern maker; Robert J. Connell, tool and die maker.

Other Convair employes receiving recognition were Jack A. Croft, Martin A. Stutz and Wayne Turner, who were presented certificates commending them for 10 years of meritorious service to the apprenticeship program.

MARINE SOCIETY HEARS DEVEREUX

Robert Devereux, Convair ocean data station program manager, participated in a panel discussion on "Utility of Ocean Buoys" May 27 at a meeting of the San Diego section of the Marine Technology Society.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Continued from Page 1)

but the Navy feels that its aircraft overhaul depots are not overloaded. Spot overloads can be assigned to other depots. They have not gone to any subcontractors for this work.

Despite heavy defense expenditures, few new programs have been initiated. This has been reflected in less research and development work for organizations such as Convair.

★ ★ ★

Q—What is our policy on producing things other than missiles and aircraft? Could not General Dynamics acquire a commercial line of manufacturing (such as travel trailers) by merger or purchase and use available space at Kearny Mesa for this operation?

A—General Dynamics is widely diversified in other fields, such as marine, electronics, telephones, building materials etc. Generally, the Corporation operates on a basis of improving the businesses we are already in, while continually investigating new opportunities.

Convair is almost wholly a government supplier. To move the production of a commercial product such as trailers into the KM plant would involve mixing a consumer goods line with government products. Such a mixture would create monumental accounting and control problems. In general, industry experience indicates the two should not be commingled.

★ ★ ★

Q—Are employes who earn college degrees while working for Convair then paid the same as new hire college graduates?

Employes who earn their undergraduate degrees in job related fields while working for the company should be given consideration for this additional education. Current starting rates for newly-hired college graduates would be among the items involved in this consideration. For more specific information, call wage and salary, ext. 3771 KM.

★ ★ ★

Q—The current Convair telephone directory was made up in August 1967. With the many changes, wouldn't it be wise to reprint?

A—Updating the directory has been delayed until July or August because of the impending installation of the new Corporate voice network called Dynanet. Dynanet will enable station users to place calls and receive calls without the assistance of a switchboard operator. Some methods of placing calls will change and the new directory will be correlated to the new system.

★ ★ ★

Q—Can the company install coin or dollar bill changing machines in the plant?

A—No. Change machines are costly to buy and maintain. A more practical way is to have change stations at various locations to provide this service. To learn the location nearest you call LF 1677 or KM 1300.

★ ★ ★

Q—We have had a family membership at the CRA gym for a year. As a female employe, I feel we are at a disadvantage trying to use the gym when the men are. It gets overcrowded and the women feel out of place among so many men. Would it be possible to once again have one night set aside for women only?

A—The CRA gym is presently being utilized to its maximum capacity. We agree it would be desirable to have one night for ladies only, provided such a plan would not restrict utilization of this facility.

Accordingly, we will survey those women who are interested in attending the gym on (Tuesday) (Wednesday) (Thursday) of each week. Provided there is sufficient interest shown, i.e., the number of ladies participating on ladies night would be equal to the present utilization, we will initiate such a program. A decision will be published in GD/NEWS. Those interested should contact either George Schmiedel, or Ralph Mansfield, ext. 1111, KM.



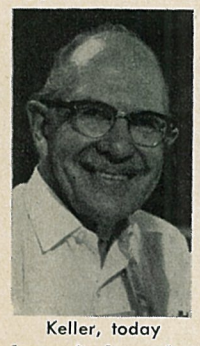
GOOD OLD DAYS—This was Bill Keller, Convair inspector, as he looked in 20s on Pantages vaudeville circuit.

Vaudevillian

Former Hoofer Revives Act

Bill Keller, Convair Dept. 015 inspector, and one time vaudeville star on the old Pantages circuit, is trying a weekend comeback.

He recently got out his straw hat, tuxedo and dancing shoes and appeared for a Saturday night audience at Kona Kai Club.



Keller, today

"It brought back a lot of memories. Once you get vaudeville in your veins you never lose it.

"Except for USO shows during wartime and a few charity performances, I haven't done the old routine since the 20s."

Keller's act includes soft shoe dancing, joking with the audience and songs of the 20s such as "Three O'Clock in the Morning" and "Barney Google." He plays a ukulele accompaniment.

"The act surprised my wife. She didn't know I could do it."

Keller said the activity is strictly weekend, but he may try Las Vegas on his vacation.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is June 11. Call ext. 1071 LF or 3322 KM. All meetings are held in CRA Clubhouse unless otherwise noted.)

★ ★ ★

ADVENTURERS—Meeting June 19, 7:30 p.m. Weekend campout to San Gorgonio Mtn., June 22-23.

BADMINTON—Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BICYCLE CLUB—San Pasqual 50-mile ride June 8, 7:30 a.m. Ride starts Highway 395 and Miramar Road.

BRIDGE—Play each Friday, 7:30 p.m.

CAMERA CLUB—Meeting June 16, 7:30 p.m., Photo Arts Bldg., Balboa Park.

CERAMICS—Meetings Tuesdays and Thursdays, 7-10 p.m.

CHESS—Play each Wednesday, 7 p.m.

CHORUS—Rehearsals 7:30 p.m., Mondays.

COINEERS—Meeting June 19, 7:30 p.m., Convair cafeteria, Lindbergh Field.

DELTA DIVERS—Meeting June 12, 7:30 p.m.

FENCING—Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FICHING—Meeting June 18, Gillespie Field Clubhouse. Potluck 6:30 p.m.; meeting 7:30.

GARDEN CLUB—Meeting tonight, 7:30 p.m., Floral Association Bldg., Balboa Park.

GOLF—Weekend to Warner Springs, June 7-9. NMA tourney June 29-30, Torrey Pines. Call Terry Kell, ext. 1900 LF.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Mondays through Fridays; 10 a.m. to 5 p.m. Saturdays.

HI/FI MUSIC—Meeting June 11, 7:30 p.m.

ICE SKATING—GD family skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

JUNIOR SCIENCE—Meeting June 7, 7:30 p.m. Slide presentation.

MINIATURE RAILROAD—Operating sessions Saturdays, Sundays and holidays, CRA Missile Park.

MODEL HO RAILROAD—Work sessions 9 a.m. Saturday mornings; 7:15 p.m. Tuesdays, CRA Missile Park.

PISTOL CLUB—Shoot June 9, 9:15 a.m., San Diego Police Pistol Range.

RADIO CLUB—Meeting June 6, 7:30 p.m.

RIDING CLUB—Regular meeting June 12, 7:30 p.m. Monthly show, June 16, CRA horse ring.

ROCKHOUNDS—Meeting June 12, 7:30 p.m.

SCULPTURE—Workshop sessions Mondays, 7-10 p.m.

SAILING CLUB—Meet fourth Wednesday each month, 7:30 p.m.

SPORTS CAR CLUB—Meeting June 12, 7:30 p.m.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m.

TRAILERS—CRA Travelers trailer club outing to Pine Crest, June 14-16.

TROPICAL FISH—Meeting and movie June 10, 7 p.m.

WIVES CLUB—Luncheon and business meeting, noon June 19 at Bahia Hotel, La Jolla room. Special membership tea, 1-3 p.m., June 26.

WOMEN'S GOLF—Tournament June 8 at Whispering Palms in Rancho Santa Fe.



OFF AND SPINNING—Members of Convair Bicycle Club wave as they shove off for 25-mile spin around Mission Valley. Sea World was starting point.

Package Fishing Trip Offered

A CRA sponsored weekend fishing trip to San Felipe, Baja, Calif., has been scheduled June 14-16.

George Schmiedel, CRA business manager, said cost of $34 will cover round trip transportation in an air conditioned bus, two nights accommodation, fishing license and tackle.

The group will leave CRA Clubhouse at 5:30 p.m., June 14, stop for refreshments in Mexicali and arrive at San Felipe about 11:30 p.m. The bus will leave for the return trip at 1:30 p.m. June 16, arriving back at KM about 8.

Fish caught will be cleaned and iced for the return trip. A bilingual escort will accompany the group.

Reservations must be made by June 12.

Bicycle Club Plans San Pasqual Ride

CRA Bicycle Club members have scheduled a 50-mile San Pasqual area ride Saturday (June 8), starting at 7:30 a.m. from Highway 395 and Miramar Road.

The group will pedal through Poway, Ramona and the San Pasqual Valley and return via Pomerado Road. Cy Campbell, ext. 2056 KM, will be ride leader.

Sixteen members of the club combined a 25-mile ride with a picnic on the beach at Coronado on May 25. The group met in Balboa Park, crossed the bay by ferry, cycled down the Strand to Silver Strand State Park then returned to the beach near the Hotel del Coronado for the picnic lunch.

CRA Teams Place In Pistol Shoot

CRA Pistol teams placed third in both .22 caliber and center fire competition in last month's Industrial Recreation Council shoot, finishing behind North Island and Naval Electronics Lab.

Convair's first team, led by Roland Schneider's 286, scored 1117 in the .22 caliber event. The second and third teams placed 7th and 10th.

The center fire team, made up of Warren Walker, Schneider, Jim Halfacre and A. E. Kampmann fired 1020.

Awards will be presented at the Convair Gun Club, Gillespie Field, June 9, 11 a.m.

Club Golfers Enter Regional Tourney

Entries are being accepted for the Western Regional National Management Club golf tournament to be held the weekend of June 29-30 at Torrey Pines South course.

Shotgun starts will be in effect with linksmen getting off at 6:30 a.m. Saturday and noon the following day. Many prizes and special putting tournaments will be offered each day.

An entry fee of $13.00 covers both rounds. Call Terry Kell at ext. 1900 LF to enter.

Gymkhana, Equitation Events Draw 263 CRA Ring Entries

Gymkhana and equitation events drew 263 entries to the Riding Club's show last month in the CRA horse ring at Missile Park.

Susie Harmer took first in Gymkhana outpointing Davy Watson.

In afternoon equitation competition Gayla Washburn placed first with David Watson Sr. taking runner-up honors. Trophies and ribbons went to winners and ribbons to runners-up.

Judges were Rusty Hunter for equitation and Shirley Berry and Clyde Donahoo for gymkhana. John Miller and Al Maillet were timers and ring steward was E. P. Doom. Show manager was Gerry Washburn.

Next open show for the club will be Sunday, June 16 with gymkhana events kicking off the action in the morning. Equitation competition gets under way in the afternoon. The show is sanctioned by the Horsemen's Executive Council and Southern California Gymkhana Association. Lu Lewellen will be show manager.

Participants in the upcoming show will have a chance to have their entry fees cut in half by showing up Saturday, June 15, 9 a.m. for a work party to help get the ring in shape.

For further information call Clyde Donahoo, president at 277-0371 or Judy Watson, show secretary at 277-0798.

Convair Son, Basketball Star, Accepts USC Scholarship

Monroe Nash Jr., Morse High School basketball star in San Diego and son of two Convair division employes, has been awarded a $12,000, four-year athletic scholarship from the University of Southern California.

Young Nash received scholarship offers from 76 colleges and universities before selecting USC.

He is the son of Monroe Nash Sr. of Convair's Dept. 454-0 and Mrs. Monroe Nash of Dept. 250-1.

Ranked among the top 100 prep basketball players in the nation, Nash averaged 24.5 points per game this year. He was chosen a "Prep All American" by a national magazine and a member of the California "All-State All-Star" team.

He was California Interscholastic Federation "Player of the Year" in his junior and senior years and league "Player of the Year" for the past three years.

At Morse High, he was senior class president and "Boy of the Year."

Mrs. Nash has been spending most of her spare time for several months as a "secretary" to assist Monroe Jr. in handling a myriad of correspondence and scheduling visits from coaches and other college and university representatives interested in interviewing the high school prep star.

Adventurers Slate San Gorgonio Climb

CRA Adventurers will take to mountaineering the weekend of June 22-23 when members hike and backpack to the top of San Gorgonio Mountain.

The club will rendezvous Saturday morning at 10 a.m. and hike to High Meadow Springs, halfway up "Old Greyback," for overnight camp out. The climb to the 11,502 ft. summit will continue Sunday with descent that afternoon.

Trip leaders are Lee Trammell, ext. 1585 KM, and Dick Bowen, ext. 1665 LF. Call either for information.

CRA Jr. Science Club Hears Astronomer

Dr. Charles M. Huffer, professor of astronomy at San Diego State College, will give a non-technical slide presentation on nature and evolution of the sun at a CRA Junior Science Club meeting at 7:30 p.m. Friday (June 7) in the CRA Clubhouse.

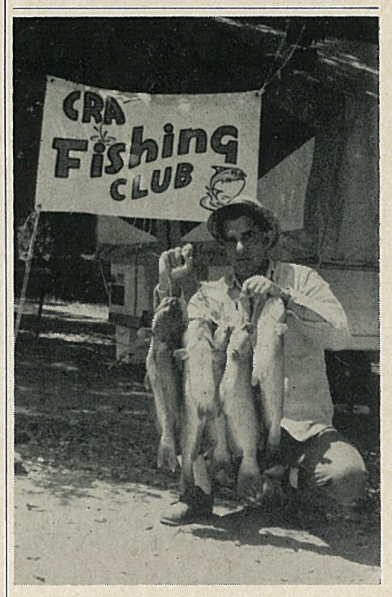
High school and junior high school-age children of General Dynamics employes who have an interest in science are eligible for membership in the club. Interested parents also have been invited to attend this week's meeting.

Jr. Rifleers Third In Annual Shoot

David Farrelly Jr., son of Dave Farrelly of Convair's Dept. 572-1, won the first place sharpshooter's trophy last month in the fourth annual San Diego Junior Regional Small-Bore Rifle Tournament sponsored by Convair rifle clubs.

Convair's Junior Rifleers team earned third place marksman honors with a combined score of 1,113. Firing on the team were young Farrelly, Paul Fox, Philip Mark, Barbara and Steve Greer.

Ninety-one individual competitors and 18 teams from eight Southern California junior rifle clubs participated. Dick Zeich, CRA Rifle Club commissioner, was in charge of the tournament.



PRIZE CATCH—Phil Poche displays a string of catfish he caught at Lake Henshaw during the CRA Fishing Club's May outing.

Bonnie and Clyde

Pomona Division Man Recalls Delivering Milk to Desperados

Nearly a quarter of a mile off Seventh Street Road between Joplin and Duenweg, Mo., Bonnie and Clyde were "holed-up" and it was there that Bill Burns, Pomona division Dept. 22, delivered milk to the infamous pair early in the 1930s.

"The house, located in a gully, was almost obscured by the surrounding woods," Burns said. "The wary Bonnie was seldom seen but on those rare occasions always had a stogie in her mouth, wore a man's dirty felt hat and a holster with gun. She was short and, I thought, homely. She wore grimy blouses and long ugly skirts."

One morning Burns bounced over the uneven dirt road in a Model "T" delivery truck only to find that chits — customarily left as payment for bottled milk — were missing. He rapped on the door. It was Bonnie who flung the door open, cursed the stunned youth and told him that he'd get paid "if and when" she felt like paying.

"That encounter discouraged my questioning her honesty at future oversights," Burns recalled. However, when the gunman and his moll abandoned that hideout to evade the "Law," Burns was only a few chits short.

"I didn't realize who my customers had been until I read about them later in the newspaper."

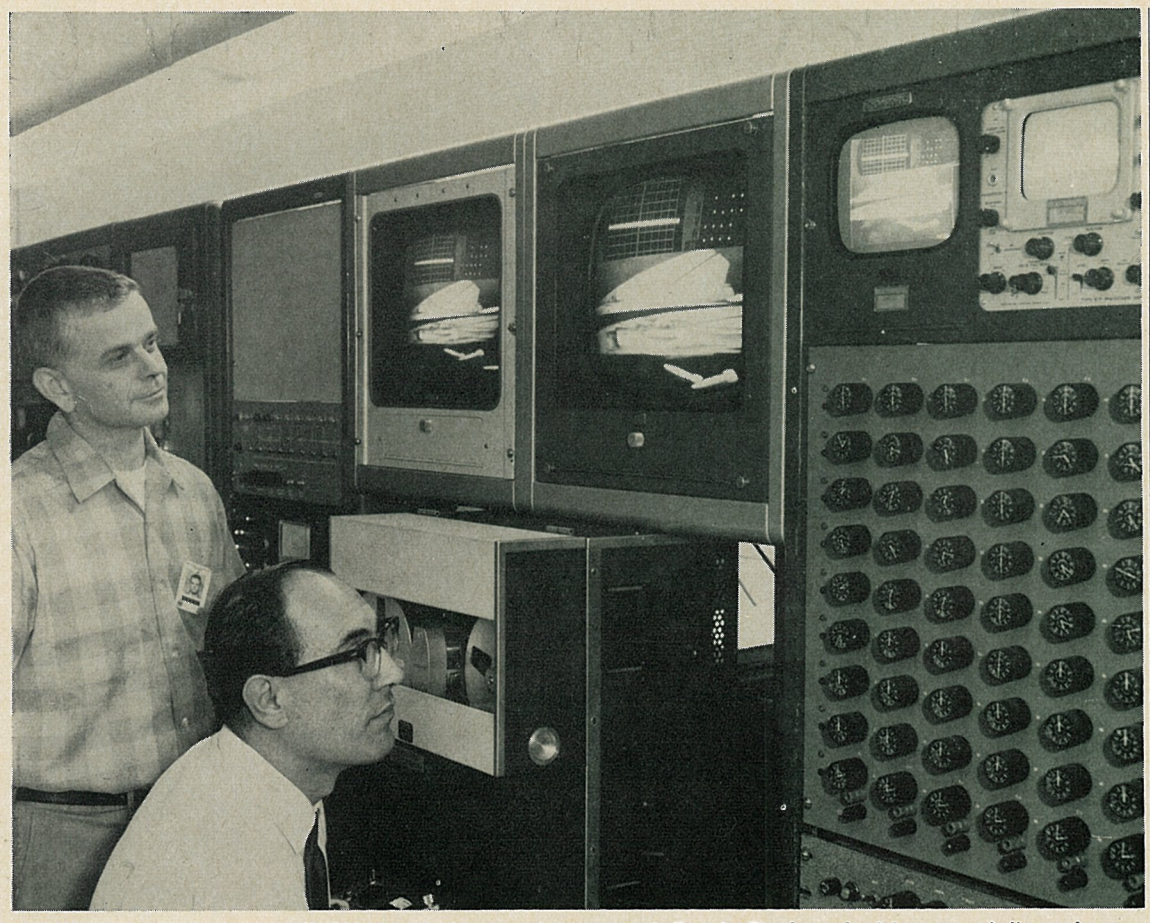


MILK MAN'S MEMORIES — Bonnie and Clyde were not favorite customers on his milk delivery route in Southwest Missouri during 1930s, Bill Burns recalls.

'Wells Fargo Days' Topic of Lecture

A talk, "Early Days of Wells Fargo Bank," will be presented to CRA Adventurers, June 19, 7:30 p.m. in the CRA Clubhouse auditorium by Noel M. Loomis, lecturer in English at San Diego State.

Highlights will include some critical periods in the early history of San Francisco and California. Door prizes will be given and refreshments served.



TAPED—Earl Beach Jr. (left), test project engineer, and Frank Finch, television specialist, observe video tape recordings of Convair wind tunnel test runs. Note views of stores being dropped from model.

Instant Viewing of Test Results Achieved With Wind Tunnel TV

Use of "instant replay" television is providing faster examination of test results obtained in Convair's high speed wind tunnel.

Previously, movie cameras were used for recording, and viewing was delayed while the film was being processed. Video tape requires no processing.

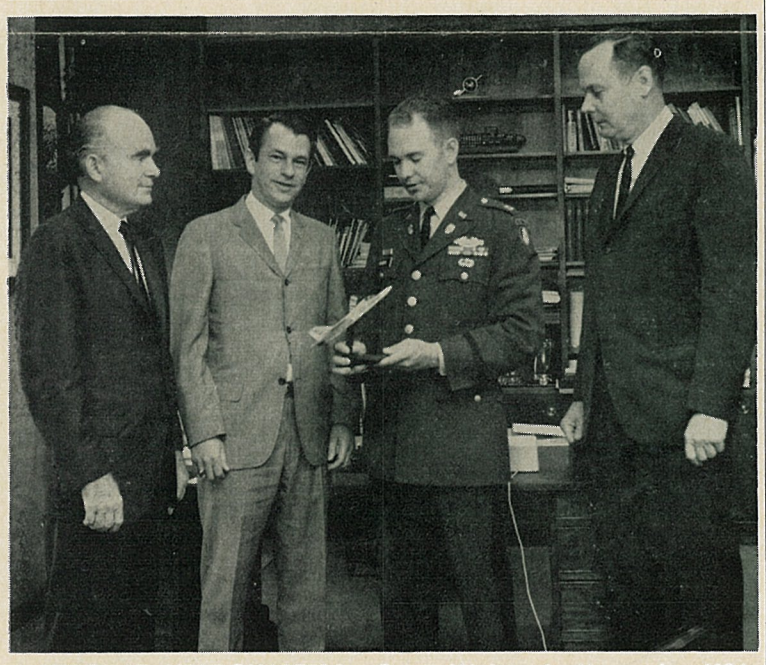
"Results can be viewed immediately with video tape," said R. E. Attlesey, senior aerodynamics engineer. "And the tape can be sent to customers without delay. For example, Fort Worth division engineers can view the results of an important test within a few hours."

The video tape system also allows more flexibility. For instance, several video cameras may be used during a test to show more than one view of the model, and at the same time other cameras can be used to record instrument readings. These are all recorded on the same tape and are shown simultaneously on a split screen during playback.

"We use photographic film in high speed cameras for precision data recording," said Attlesey. "The high speed camera takes 400 frames per second, about 25 times faster than an ordinary camera. This can be viewed one frame at a time for studying drop patterns of stores released from an airplane.

"We had previously used black and white film for this, but now we use color for better definition."

The high speed wind tunnel serves not only General Dynamics divisions but outside customers as well, including Boeing and General Electric.



HERO AT HEADQUARTERS—Capt. Walter J. Marm Jr., USA, Viet Nam veteran and Congressional Medal of Honor winner, visited General Dynamics New York Headquarters recently in support of 1968 U.S. Savings Bonds drive. From left, Algie A. Hendrix, Corporate vice president, J. A. Hawkins, Corporate coordinator of employe services, Capt. Marm, E. C. McManus, Corporate director of employe services.

Vital Company Papers Being Concentrated In Storage Centers

At General Dynamics locations on the East and West Coasts, and in such unlikely places as a Kansas salt mine, the relocation of an estimated 500,000 cubic feet of records is under way.

The reasons: to cut down maintenance costs, save space, and safeguard records considered vital to the continued existence and operation of the Corporation in the event of a common or local disaster. Vital records—both historical and current — are those necessary for resumption and continuation of operations, reconstruction of the legal and financial status of the Corporation, and fulfillment of financial obligations to stockholders, employes and outside interests.

The next phase—Corporate-wide participation in the vital records program—will begin immediately after a meeting of records management personnel from divisions and subsidiaries scheduled for June 13-14 at Electric Boat division.

The program began moving in January when Electric Boat leased space in a Norwich, Conn., building. Active and inactive records from EB and the Quincy division were brought to the new East Coast records retention center by the truckload.

The center now has over 25,000 boxes on file. They are maintained by two full-time custodians. Their presence assures almost instant retrieval of information stored in the center, and 24-hour service on items to be mailed.

At Convair division's Bldg. 8, Lindbergh Field plant, is the West Coast records retention center. Later this year, when administration of the center is taken over by the Corporate Office, it will become a focal storage point for field offices and divisions in California.

At the same time, the East Coast operation will be broadened to handle an expected influx of records from General Dynamics in New York, Rochester and Montreal. The Corporate Office last week trucked over 100 cartons of records from its storage area to the new site that fronts the Thames River.

Complementing both operations is the vital records center. It is located in a 128-acre salt mine in Hutchinson, Kan., 650 feet below the surface. Since last July, General Dynamics has placed 375 boxes containing stock certificates, legal papers and other invaluable documents in this underground fortress.

At the meeting in Groton, Gloria Wilkes, Corporate records management analyst, will ask other records personnel to sift out valuable data from their files and forward it to the Kansas center. Participation in this vital records program will further reduce the cost of records maintenance, she said. In previous years, the total Corporate cost of records maintenance has often exceeded $2 million a year.

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Gloria Wilkes Architect For Archives Plan

The architect of the Corporate-wide drive for uniformity and cost reduction in records maintenance is Gloria Wilkes, who candidly admits there are times she misplaces papers on her own desk.

As Corporate records management analyst, Gloria has literally written the book on her subject. It is the General Dynamics Records Management Manual, a thick volume of do's and don'ts, three years in the making.

Her interest in records management started about seven years ago. Since then, she's studied her subject—enough so that she is now at ease when she takes to the podium at the American Management Association to tell her story to the directors and vice presidents.

Gloria's job keeps her on the go. For the last few months, she's spent nearly every week commuting between her home, the Corporate Office and the East Coast records center in Connecticut. Then there are numerous trips to other divisions, and such places as the Kansas salt mine—the site of General Dynamic's vital records center.

"The Kansas salt mine is enormous," she said. "And we have a wide variety of neighbors, ranging from a movie company that has a print of every film it ever made stored there to a chocolate company that keeps all its recipes under lock and key."

Gloria recently was named Records Manager of the Year by the American Records Management Association. She is also president of its New York chapter, and a frequent lecturer.

Exhibits on Armed Forces Day Include Pomona-Built Missiles

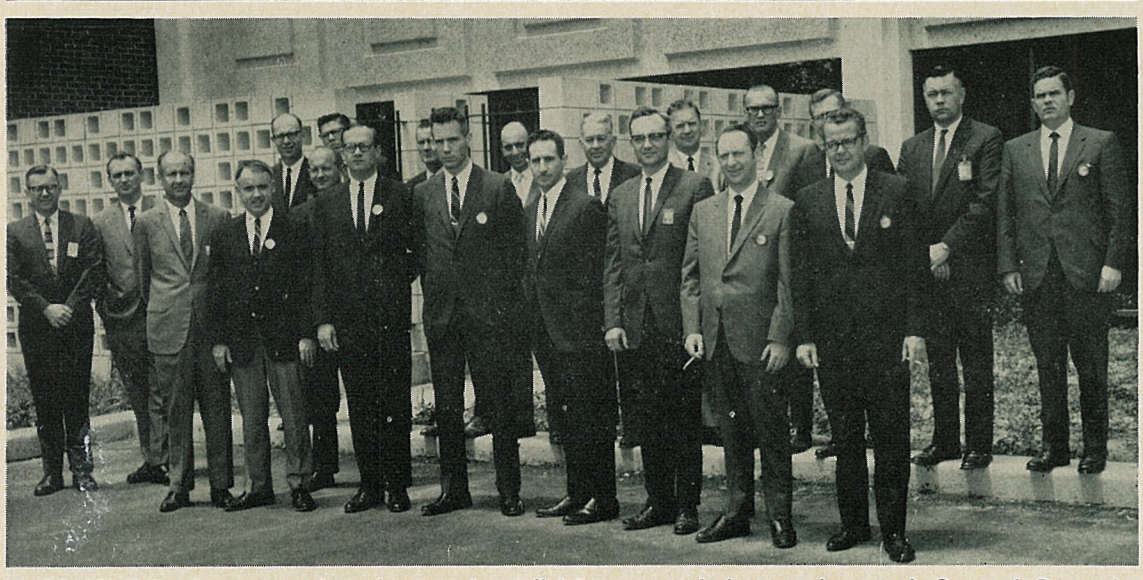
Guided missiles produced by Pomona division were featured in exhibits during Armed Forces Day observances May 18 at a number of locations. As in the past, theme of the 19th annual Armed Forces Day was "Power for Peace."

The shoulder-fired Redeye air defense guided missile was featured in exhibits at Ft. Bliss, Tex., and Ft. Wingate, N. M.

Full-scale models of the Standard Missile were on display at Norton Air Force Base, San Bernardino, and at the Oxnard Air Force Base.

While not part of Armed Forces Day, Redeye was also featured in a display at an engineering exposition at University of Kansas, Lawrence. This exhibit, prepared by the AIAA junior chapter, was awarded first prize for best student display.

Be sure to use the ZIP code when addressing mail. It speeds up delivery!



CONCLAVE—Representatives from various divisions attended second annual General Dynamics Business Computer Conference at FW division recently. Front row, from left, K. Loynes, Convair (ETR); D. A. Alexander, GDE; C. H. Buse, FW; P. Shumate, MS; E. O. Rea, S-C; R. L. Brorein, S-C; G. Holzer, FW; K. Bridgeman, GDE; N. Shevloff, Canadair; F. E. Bailie, Canadair. Back row, from left, Dave Verdery, GDE; D. R. Pardee, Convair; George Siesert, EB; R. McPhail, EB; Ralph Fragola, EB; R. P. Curry, FW; Ken Dunn, FW; G. O. Withem, Convair; Jerry Preston, EB; K. Noyd, EB; W. R. Perkins, Canadair.

Top Level Meetings Scheduled To Deal With Long Range Plans

Executives from General Dynamics divisions and operating units will meet with Roger Lewis, president, and other Corporate representatives in a series of four long-range-planning meetings beginning this month.

Aerospace divisions — Canadair, Convair, Fort Worth, and Pomona — will be represented at the first of the series June 19-20 at Convair division's Kearny Mesa plant in San Diego.

The Electronics Group—Stromberg-Carlson, Stromberg Datagraphics, and Electronics — will meet June 27-28 at Stromberg-Carlson in Rochester, N. Y.

Resources Group units — Material Service, Freeman Coal and United Electric Coal Companies, and Marblehead Lime — will convene July 1-2 at Material Service division headquarters in Chicago.

The Marine Group — Quincy and Electric Boat — are to meet July 9-10 in Groton, Conn., with Electric Boat as host.

Representatives from each division or operating unit will include the division manager, chief financial officer and selected individuals concerned with planning, development and sales.

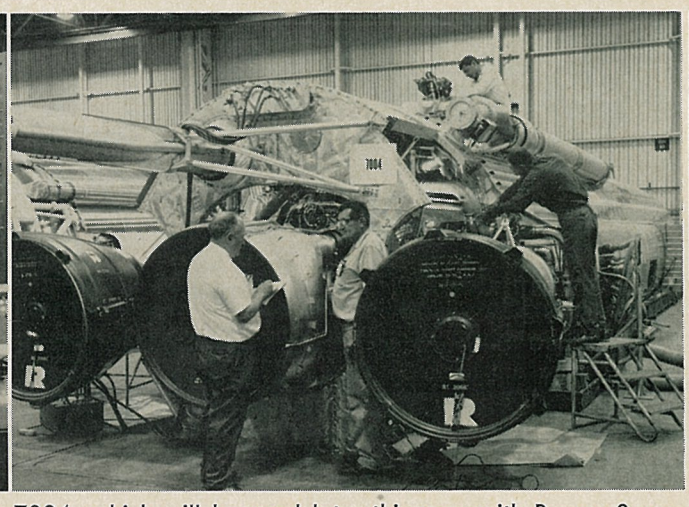
The first day of each of the sessions will be devoted to divisional presentations and a discussion of individual divisional programs. Broad alternate programs open to the groups and problems of coordination among divisions will be discussed the following day.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 13 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, June 19, 1968





FACTORY 'FLIGHT'—Atlas SLV-3 No. 7004, which will be used later this year with Burner 2 second-stage vehicle for launch of Space Experiment Support Program payloads, is shown undergoing final checkout and systems tests at Convair's Kearny Mesa factory before being shipped to Vandenberg AFB. At right, W. L. McBride, Dept. 761-0 foreman, talks with C. L. Dunlavey as L. L. Ripley, right, and Onofre Valdez, atop vehicle, complete work. Composite systems tests are run (left photo) with Richard Schmidt, foreground, as conductor. Others, from left, are Charles Klein, Art Romag, Sam Reeves, B. J. Kratz, I. V. Steinberger, R. L. Brown, L. H. Fry, Bill Weatherby, Jim Evans, Oscar Wertanen and Jack Jessop.

Aerodynamicist Earns ES Award of $1,173

William H. Lowe, a Dept. 507-0 senior aerodynamicist at Convair division's high speed wind tunnel, has been presented a $1,173.40 Employe Suggestion award check and commendation certificate for proposing development of an automatic control system for the wind tunnel.

Previously, operators had to depress numerous push buttons in a given sequence manually while observing wind tunnel operations. Since implementation of Lowe's suggestion, sequencing and operation of all timers and relay circuits is programmed and conducted automatically. Valuable time is being saved and "aborted runs" reduced to a minimum.

The new automatic control system was designed, produced and installed at a cost of $1,541 and is expected to result in a gross savings of $13,275 or a net savings of $11,734 during its first year of operation.

Paul Ferrara, director of engineering administration and services, presented the award on behalf of E. R. Peterson, vice president-research and engineering, and commended Lowe for his foresight and initiative.

Ferrara said engineering personnel sometimes are hesitant to submit suggestions and cost reduction and value control projects because of the relationship between the ideas involved and their regular duty assignments.

"Ideas such as this can save the division and the Corporation thousands of dollars and increase both our technical and workload capabilities," he said.

"Such efforts warrant recognition. In the case of Employe Suggestions, where the proposed cost saving improvements fall outside the normal scope of the employe's regular duties, the individual shares in the saving that will be achieved."



TUNNEL CONTROL—W. H. Lowe, right, discusses new automatic control system for Convair high speed wind tunnel with W. T. MacCarthy, left, wind tunnel manager, and P. D. Ferrara, director of engineering administration and services. Lowe received $1,173 Employe Suggestion award for proposing system.

Glaeser Heads SDI Mgt. Club

Dick Glaeser will be installed June 22 as president of Stromberg Datagraphics, Inc. Management Club in ceremonies to be held at the Kona Kai club.

Installation ceremonies will be conducted by W. E. Magnuson, Zone A director of the National Management Association.

Other new officers to be seated will be Bob Smit, first vice president; Jerry Joyce, second vice president; Bill McKenna, secretary; Jim Nicholson, treasurer.

Clay Murdock will be installed as new three-year board of control member.

Outgoing officers are: Dick Barnett, president; Bob Hayde, first vice president; John Westling, second vice president; Cynthia Schick, secretary; Patrick Harkins Jr., treasurer. The retiring board member is Jack Weaver.

Hold-over members of the board of control are Steve Carnahan, two year term; Roy Gilmore, one year.

Atlas-Centaur Prepared For Launch in July

Convair division's Atlas-Centaur 17 is undergoing preparation at Complex 36-A at Cape Kennedy for next month's launch of NASA's Applications Technology Satellite-D.

Grant L. Hansen, vice president-launch vehicle programs, said the ATS-D launch is of particular importance to the division because it marks first operational assignment of the Atlas-Centaur since Project Surveyor.

"We spent seven years getting ready and launching the Surveyors — and had a perfect seven-for-seven success record," he said.

"We move into a new era with the ATS-D mission next month and launch of a NASA Orbiting Astronomical Observatory (OAO) this fall."

More powerful Atlas-Centaur vehicles have been substituted for Atlas-Agena for the ATS and OAO launches to accommodate new missions requiring greater booster and second-stage launch vehicle performance.

Deane Davis, Centaur program manager, said Centaur will have an hour-long orbital coast in space in the ATS-D mission before its second engine "burn" to send the satellite on a five-hour journey to synchronous orbit position. The Centaur "parking orbit" coast in the two-burn Surveyor missions was for about 25 minutes.

ATS-D, after being positioned in its synchronous orbit "station" over the Atlantic Ocean, will utilize a series of extended booms for gravity gradient stabilization. The two successful previously launched spacecraft in the ATS series were spin stabilized.

A TV camera aboard the ATS-D will provide continuous monitoring of the gravity booms being utilized in the stabilization system.

ATS-D's "highly sophisticated payload" also will include a series of meteorological, environmental and micro-thrust propul-

(Continued on Page 2)

Salvage Yard Bans Open-Toe Shoes

Next sales day for General Dynamics employes at the Convair Salvage Yard will be June 22, 8 a.m. until noon. Entrance is by ID card through Gate 5.

No children under 15 years of age are allowed in the yard and no one wearing soft-sole, tennis or open-toe shoes will be admitted because of the safety risk.

Convair to Design In-Flight Trainer

A time and material contract valued at $762,000 has been awarded to Convair division for engineering design of a "total in-flight simulator" pilot transition training airplane by Tex Johnston, Inc., of Santa Barbara, Calif.

The airplane is to be a Convair 440 which has been recently modified to a 580 configuration for Allison turbo-prop power. Modification of this aircraft, first of a series of airborne simulators, calls for mating the nose section of a Boeing 707/720 to the forward end of the Convair 440, installation of side force surfaces and lift flaps on the wing, installation of changes to the airplane's flight control surfaces, and installation of computers and instrumentation in the airplane fuselage.

Engineering is under the direction of F. J. Signorelli, program manager reporting to J. S. Bergstrom, chief project engineer, research and development. John Burgeson is structural design group engineer for the project which will employ up to 30 in design and liaison. Engineering is under way and modification, expected to begin shortly, is scheduled for completion by mid-December, with flight test starting early in 1969.

Airplane modification is scheduled to be done at Santa Barbara, Calif. by Tex Johnston, Inc., who will lease the simulators for the training of airline pilots transitioning into new aircraft.

Called Air Transport Total In-Flight Simulation (AT/TIFS), this is the first commercial application of 20 years of research in variable stability of aircraft conducted by Cornell Aeronautical Laboratory, Buffalo, N. Y.

The airplane will be flown by the transition training pilots in the 707 flight deck with authentic 707 controls and instrumentation which, when fed through the computerized control system, cause the AT/TIFS airplane to react with exact 707 flight characteristics. Subsequent AT/TIFS aircraft will duplicate the flight characteristics of the DC-10, L-1011, B-747, Concorde and SST as market demands indicate.

Backup pilots in the Convair flight compartment can over-ride the computerized controls at anytime if safety considerations warrant.

By eliminating the use of high capital cost "off-the-line" jumbo jet transports for pilot training, the in-flight simulator will save airlines many thousands of dollars in initial and recurrent pilot training costs, due to the lower operating cost of the Convair plane over a jumbo jet, and the fact that the jumbo jet is not taken away from revenue service.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

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Q—Several years ago when employment at KM was much greater than it is now our (Bldg. 33 employes) lunch period was extended from 30 to 45 minutes to ease conditions at the cafeteria and in the parking lot at end of shift. The situation is different now and would management consider placing us back on the 30-minute lunch period?

A—Yes. Studies were launched as a result of your question and the return to the 30-minute lunch period was effective June 10.

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Q—Why is it that during the recent U.S. Savings Bonds drive we did not get credit for the bond contributions made through the Savings and Stock Investment Plan?

A—This was explored with the Treasury Department at the time the savings plan was instituted. However, the annual bond drive is aimed at individual financial involvement in the country's welfare through purchase of Series "E" bonds in limited denominations. Bonds purchased by the Savings and Stock Investment Plan trustee are large government obligations and not identifiable with individual participants. In fact, Series "E" bonds cannot be purchased by trusts, etc., only by individuals. Therefore, the Treasury Department does not recognize the Savings Plan bond buying as credit toward bond drive goals.

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Q—Many nowadays are diet-conscious. Why not put diet soda in the vending machines?

A—Diet sodas have been stocked in the past but consumer demand was minimal. However, syrups have improved recently and it is planned to try stocking them again. If demand justifies, they will be placed in all machines.

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Q—My husband, covered as a dependent by my Aetna group insurance, became 65 in February. Since then Aetna has withheld payment of claims for him until they find out how much Medicare will pay. What has Medicare to do with Aetna?

A—Aetna group insurance covering active or retired employes and insured dependents requires that the claims filed shall be

(Continued on Page 2)

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between June 16 and June 30.

Thirty-year: Dept. 401, G. W. Allen, 834, H. D. Cromartie, D. F. Kline.

Twenty-five-year: Dept. 002, F. L. Cantrell; 027, B. F. Ribero; 143, J. M. Leech; 190, J. D. Milling; 595, S. Rogers; 761, H. A. Staufenbeil; 835, S. J. Webster Jr.

Twenty-year: Dept. 027, R. A. Berman, J. F. McClure, H. F. Meyers; 031, C. L. Williams; 059, H. L. Carlisle; 113, H. L. Wylie; 202, W. R. Horning; 400, H. H. Hyde; 759, W. A. Fields; 860, C. Lent; 954, R. W. Lake.

Fifteen-year: Dept. 019, D. W. Bryant; 031, H. O. Schroeder; 059, D. P. Isaac, J. H. Thompson; 143, M. E. Howell; 250, C. Edwards, B. L. McElhose, H. D. Moore; 401, F. R. DeGreef, J. W. Yates; 420, K. G. Bowman; 508, J. F. Armstrong; 524, Rebecca M. White; 595, Barbara J. Sjoblom; 761, E. C. Cass; 780, A. Alimonti, Frances S. Lujan; 832, Patricia K. Hawkins; 834, F. B. Spieker; 952, F. R. Sedlund; 958, R. A. Freedman;

Ten-year: Dept. 059, Ramona J. Martinez, 101, A. W. Samuelson; 130, O. O. Bowles, J. J. Tannone Jr.; 144, H. I. Hornsby; 149, R. E. Smith; 170, E. A. Guttzeit; 250, R. S. Sakamoto; 400, R. A. Asperin; 420, Rosemary Heath; 533, J. C. Randall; 541, T. Matsumoto, P. T. Yasuhara; 578, A. D. Barber, D. A. Nirschl; 581, M. R. Clark; 589, A. W. Morgan; 598, H. M. Bonesteel; 731, S. Fritzohn; 763, R. H. Schmidt; 780, Melba E. DePriest; 831, A. J. Cali; 833, Angelina M. Velho; 842, Eva M. Jones; 962, J. D. Soltmann; 964, E. L. DePlomb; 967, D. M. Peterson; 979, D. L. Benne, A. C. Darr Jr., L. D. Del Monte, K. P. Fouts, F. G. Hagerman; D. Hanbury, G. A. Hart, J. A. Jones, C. E. Shane, E. W. Stewart, W. F. Sutton, J. M. Wardman; 985, C. M. Flores, A. F. Mau; 988, L. R. Lisak, C. R. Niderost.

ELECTRONICS

Fifteen-year: Dept. 422, G. P. Docherty.

Ten-year: Dept. 422, J. B. Mood; 423, Freda N. Johnson; 612, R. C. Hansen; 755, M. R. Huff.

STROMBERG DATAGRAPHICS

Twenty-year: Dept. 8590, C. R. Fisher.
Ten-year: Dept. 8570, J. T. Stebbins.

Awards

CONVAIR

Employe suggestion awards approved for the week ending May 31.

Dept. 144, W. H. Behrens, $729.30; 045, S. C. Brogan, $15.25; 400, S. W. Budz Jr., $31.90; 979, G. L. Callon, $15.00; 454, A. A. Carlson, $17.65; 985, D. S. Carpenter, $31.00; 149, P. G. Ceccherini, $17.15; 015, R. L. Doyle, $30.00 (two awards); 733, T. L. Duenez, $21.20; 964, J. A. Eaton, $36.70; 250, W. A. Engelke, $19.70; 958, R. A. Freedman, $30.00; 059, J. H. Gahagan, $320.00; 005, R. R. Gourley, $15.00; 420, J. G. Hickey, $17.65; 027, J. T. Hobbs Jr., $42.80; 015, S. S. Jenson, $15.00; 733, L. M. Jones, $15.00; 141, W. H. Kirk, $15.00; 149, A. D. Kozakiewicz, $17.15; 401, F. J. Lewon Jr., $15.00; 507, W. H. Lowe, $1173.40; 143, J. B. Miller, $41.90; 027, L. F. Pendarvis, $69.70; 149, L. P. Raley, $33.20; 985, F. K. Rohr, $51.10; 715, C. E. Schultz, $15.00; 979, L. R. Smith, $15.00; 045, J. D. Volkov, $15.25.

Employe suggestion awards approved for the week ending June 7:

Dept. 027, D. D. Axsom, $15.00; 831, R. Badilla, $15.00; 507, K. R. Bailey, $15.00; 954, D. Birch, $16.40; 562, D. G. Boyer, $41.70; 015, E. O. Brink, $19.70, A. J. Capuccini, $23.80; 143, J. J. Corbett, $33.70 (two awards); 780, M. E. DePriest, $67.60; 250, W. A. Engelke, $148.90; 401, A. J. Fredrich, $7.50; 015, D. R. Hatheway, $514.70; 143, V. P. Hunt, $33.70 (two awards); 142, L. E. Johnson, $151.80; 780, G. Johnston, $15.00; 843, E. B. Kellogg, $1064.60; 193, J. S. Kroepel, $15.00; 015, M. E. Long, $15.00; 144, W. G. Lux, $36.10; 015, R. Mastny, $15.00; 401, J. F. McConnell, $15.00; 015, J. K. McDonough, $86.70; 401, W. A. McGrew, $7.50; 019, O. Mitchell, $41.10; 015, J. P. Mobius, $15.00, C. D. Monds, $15.00; 780, C. M. Ortiz, $30.00 (two awards); 957, A. L. Rader, $15.00; 250, L. J. Renz, $15.00; 002, T. A. Roach, $50.40; 015, J. T. Tattoli, $15.00; 250, G. A. Young, $30.00

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Monday, July 1, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 14, auditorium, Tuesday, July 2, 8 a.m. for first shift; today June 19, 4:30 p.m. for second shift.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF STUDY—A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Rider-Driver

CONVAIR

RIDE WANTED—From Lemon Grove near San Altos School to Lindbergh Field. 7:00 a.m. to 3:30 p.m. shift. Call James Cooper, 465-2874.

RIDE WANTED — Pacific Beach to Kearny Mesa, 7 a.m. to 3:45 p.m. shift. D. G. Havens, ext. 2029 KM or (home) 274-6472.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N. Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Papers Presented

CONVAIR

BRADSHAW—R. D., Dept. 534. "Cryogenic Propellant Conditioning with Jet Mixing." American Institute of Chemical Engineers/64th National Meeting, Tampa, Fla., May 19-22.

BUJKOVSKY—G. J., Dept. 563. "Microreproduction Equipment Users' Requirements." National Microfilm Association Meeting, Chicago, Ill., May 21-23.

GOTTSCHALK—H., C. D. NELSON, A. J. PHILLIPS, Dept. 589. "Large Networks of Buoys and The Traveling Repairman Problem." ORSA and The Institute of Management Sciences Joint Meeting, San Francisco, Calif., May 1-3.

HERSH—M. S., Dept. 572. "A Survey of Welding and Inspection Techniques for 2219-T81 Aluminum Alloy." American Welding Society/Western Welding Conf., Palo Alto, Calif., May 10.

HURLICH—A., C. J. KROPP, Dept. 572. "The Development of a Superior Titanium-Base Alloy for Cryogenic Applications." British Institute of Metals, AIME/International Conference on Titanium, London, England, May 21-24.

LYNCH—R. A., Dept. 581. "Operational Entry Spacecraft Using Airbreathing Propulsion." Society of Automotive Engineers/Space Technology Conf., Washington, D.C., May 8-10.

NEWSOM—B. D., J. F. BRADY, Dept. 592. "The Vectoreculogram as a Tool for Vestibulo-Ocular Reflex Study." Aerospace Medical Association/39th Annual Scientific Meeting, Bal Harbour, Fla., May 6-9.

ROL—P. K., Dept. 596. "Low Energy Interaction Studies with Merging Beams." ASTM/Symposium on Mass Spectrometry, Pittsburg, Pa., May 12-16.

WEBER—J. D., Dept. 585. "Aircraft Structural Response Due to Ground Impact." U. S. Naval Research Lab/38th Shock and Vibration Symposium, St. Louis, Mo., May 1-2.

Papers presented at the Navy-Mine Defense Lab and Office of Naval Research Meeting, Panama City, Fla., May 1-3.

BERQUIST—D. L., R. F. DEVEREUX, Dept. 506. "Monstor Buoy Sensor System for the North Pacific Exploratory Deployment."

WUNDROW—F. W., Dept. 506. "An Investigation of the Effect of Long Range Telemetry on Buoy Data Accuracy."

Papers presented at the Society of Aeronautical Weight Engineers/27th Annual Conference, New Orleans, La., May 13-16.

BENSON—E. E., F. L. DOHM, Dept. 588. "Weight Control of Finished Parts by Dynamic Etching."

McWHORTER—I. L., Dept. 588. "The Contribution of an Inadequate Allowance for Non-Optimum Factors to Weight Growth."

Papesr presented at the American Ordnance Association Meeting, Washington, D.C., May 7-9.

BRUNNER—T. H., Dept. 563. "Engineering Data Authority."

SHUMWAY—G. R., Dept. 567. "The 'Nitty Gritty's of Rights in Data' Vendor Data."

Papers presented at the AIAA/3rd Marine Systems and ASW Conference, San Diego, Calif., May 6-8.

COXEY—J., Y. TAMURA, N. VAN DORN. "Analytical Model of Passive Detection by Sonobuoys."

SCHMIDT—M, A., Dept. 596. "ASW Radar Performance Analysis."

Papers presented at the IEEE/NAECON National Aerospace Electronics Conf., Dayton, Ohio, May 6-8.

HEINZMANN—H., Dept. 545. "An Integrating Contractor Looks at Airborne Automatic Checkout Requirements."

SMITH—D. K., Dept. 543. "Multiplexing—A Method of Simplifying Aerospace Vehicle Electrical Systems."

Papers presented at the American Society for Quality Control/22nd Annual Technical Conf., Phildelphia, Pa., May 6-8.

MAGNUSON—W. E., Dept. 140. "The 'How' of Quality Motivation."

MISHLER—H. H., Dept. 140. "Discrepancy Reporting and Corrective Action System."

Papers presented at the American Astronautical Society/14th Annual Meeting, Dedham, Mass., May 13-15.

NEWSOM—B. D., Dept. 592. "The Space Research Centrifuge Design and Evolution of Experiment."

NILSON—M. C., Dept. 581. "A Potential Orbital Facilities for Soft X-Ray Astronomy and Long Wave Radio."

STUMM—J. E., Dept. 581. "Mechanization and Vehicle Integration of the Space Research Centrifuge."

Invention Disclosures

CONVAIR

ADAMS—J. S., A. G. **BLAKEY** and J. J. **SWARTS,** Dept. 149-7. Magnaball Dimensional Measuring System.

CHRISTOPHER—R. C., Dept. 403-2 and W. R. **WALKER,** Dept. 450-0. Use of Flexible Resin System in Composites.

RODEN—W. A., Dept. 491-0. Automatic Battery Charging System. Optical Waveform Analyzer. (Two inventions.)

TRACY—H. H. JR. and E. R. **WOODS,** Dept. 550-0. Near Zero Frequency I. F. System.

Notices

ELECTRONICS

Blood donors needed. Contact Carole Mazzilli, ext. 1220 LF or (home) 278-3161.

Personals

Thank you all for your wishes and floral offering at the recent loss of our husband and father, R. E. La Beaux.

Pauline La Beaux and sons

* * *

I wish to thank all my Convair friends for their thoughtfulness after I was injured in a recent auto accident.

Art Pringle
Dept. 850-0

Today Is Last Day For Race Tickets

Today is the last day for Convair Management Club members to secure tickets for the "day at the races" Sunday (June 23) at Caliente.

Cost is $2.50 and includes admission to the Turf Club for the day of racing, margarita cocktails at noon and a delux buffet luncheon at 1 p.m. Tickets are available through Management Club boosters.

Atlas-Centaur Readied at Cape

(Continued from Page 1)

sion experiments.

The satellite was scheduled for final encapsulation atop the Atlas-Centaur 17 this week at Complex 36-A. G. W. Lucas, AC-17 project engineer, and a "tiger team" from the KM plant will be at the Cape July 8-12 for equipment assessment and launch readiness review. Launch is tentatively scheduled July 24 with Daniel Sarokon as launch conductor.

Davis said the OAO payload scheduled for later launch in the Atlas-Centaur 16 flight will be the heaviest — about 4,400 pounds — ever launched by the Atlas-Centaur. The OAO will be placed into a 417-nautical-mile orbit around the earth. Additional OAO missions are scheduled in 1969 and 1970.

Atlas-Centaur vehicles also are scheduled to send two Mariner spacecraft past the planet Mars for TV picture taking assignments next year.

Previous Mars flyby spacecraft were launched by Atlas-Agena. Mariner IV, launched in 1964, sent a 575-pound payload to within 6,118 miles of the planet. In next year's flights, the Atlas-Centaur will send 900-pound payloads to within 2,000 miles of Mars.

Hansen said the future looks bright for additional Centaur space assignments. "Many of the nation's space goals can best be accomplished with Atlas-Centaur or Centaur in combination with Titan or Saturn boosters," he added.

Twenty-Three Earn Speech Certificates

Twenty three Convair division employes received certificates June 5 on successful completion of a six-week Speechcraft course given by Convair Toastmasters Club No. 3745 in conjunction with Convair Management Club.

The course was presented in one-hour sessions prior to the Toastmasters' regular meetings Wednesdays in CRA Clubhouse.

Receiving the certificates from W. E. Herring, educational vice president of the Toastmasters Club, were Vincent Bacon, Orville Bonnema, Tom Cartt, Jack Christian, George Cooper, Lloyd Curtis, Dan Gray, Mike Hersh, Marvin Holmberg, Harold Kurt, Manfred Krutein, Art Medrano, Bob Meyers, John Miller, Bill Randall, Dwain Rice, Lawson Rollo Jr., Ray Schmieder, Harvey Seibert, Dalton Suggs, Ed Werner, Warren Williamson and Ed Yager.

Office Established For IR At Plant 19

An industrial relations office has been established at Plant 19, under the direction of M. V. Clark. The office is located on the first floor of Bldg. 4 near the hospital at the south end.

All industrial relations services will be available with the exception of hiring.

Clark was formerly labor relations representative located at LF.

Telephone number for the new office is LF 2217. Mail zone is 131-42.

Lunch Hour Bible Sessions Conducted

Interested employes have been invited to attend lunch-hour Bible study and discussion sessions Tuesdays and Thursdays at the Kearny Mesa plant.

Meetings are non-denominational. Members of the local clergy serve as guest speakers.

Locations and times are: Bldg. 1 second floor (southwest corner) conference room, 11:30 to 12 noon and 12:10 to 12:45 p.m.; Bldg. 33, classroom 12, 11 to 11:25 a.m.

Be sure to use the ZIP code when addressing mail. It speeds up delivery!



SCHOLAR AWARDS—Ad Mosco, right, president of Convair Management Club, presents award checks and certificates to scholarship winners. From left, they are James H. Wood, Celeste Wasilk, Kenneth T. Wulfemeyer and Stephanie Rhea.

Four Awarded $500 Scholarship Grants

Two Convair sons and two daughters, all among the top 1 per cent of their high school graduating classes, have been awarded $500 Convair Management Club scholarship grants.

They are Stephanie Joy Rhea, daughter of Charles R. Rhea of estimating Dept. 195-4; Celeste Wasilk, daughter of Harold J. Wasilk, Dept. 959-0 senior electronics engineer; James H. Wood, son of Paul E. Moore Jr., Dept. 250-5 crane rigger; Kenneth T. Wulfemeyer, son of Kenneth W. Wulfemeyer, formerly of Convair, now employe services administrator for Pomona division.

Ad Mosco, club president, presented the checks June 3 at a banquet in the 7 Inns attended by winners and parents, judges and members of the club scholarship committee.

Mark Saunders, scholarship committee chairman, said applications were received from 87 graduating sons and daughters of Convair employes.

Each of the 10 finalists were interviewed May 22 at CRA Clubhouse by a panel of judges composed of Dr. Robert Hamilton of Mesa College, Dr. John Huffman of the San Diego County Department of Education, Mrs. Jean Bowie of University of California Extension, Betty Shea of Pacific Telephone Co. and Bill Chana and Richard W. McGuire of Convair.

Other finalists were Stephen Clark, Janice Gerbaz, Nancy Ickler, Kevin Kelly, Audrey Ogden and Penelope Parsons.

Members of the scholarship committee handling initial judging were Saunders, McGuire, L. W. Turner, J. M. Bowers and S. E. Hartzler.

Each of the scholarship award winners, in addition to an outstanding scholastic record, had taken part in a variety of extracurricular activities.

Convair Mgt. Club Officers Installed

Newly elected officers of the Convair Management Club were installed last week at a meeting in the Atlantis restaurant.

Installing officer was J. B. Kappler, NMA regional manager.

Bill Chana, incoming president, received his president's pin from Ad Mosco, 1967-68 president. Mosco was presented a large gavel and pen set and he and his wife jointly accepted an "outstanding service" certificate.

The meeting was sponsored by reliability control department.

Is it news? Pick up a phone and call GD/NEWS

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Continued from Page 1)

coordinated with certain other medical benefit plans, so as to prevent payment by insurance of more than 100 per cent of charges actually incurred. Payments under Medicare fall under this requirement and must be known by the carrier in order to pay your claims properly.

★ ★ ★

Q—We are located at the high-speed wind tunnel at the Harbor Drive Test Site. Would it be possible to have some tables, benches and umbrellas in our area (for eating lunch)?

A—Yes. Plant engineering and industrial relations are making the arrangements.

★ ★ ★

Q—Does the recent elimination of technical and aviation magazines (Flying, SAE Journal, Ordnance, etc.) from the LF library reflect a downgrading of aircraft engineering effort?

A—No. At the beginning of the budget year subscriptions were reviewed according to usage and technological requirements. Agreement was reached to eliminate some, Flying and Ordnance among them. SAE Journal was retained, however, and is now being sent to LF. Incidentally, the LF library alone has about 200 current subscriptions.

★ ★ ★

Q—Is there any way we can get hot tea in the coffee machines?

A—Yes. New machines are being installed to provide both tea and soup.



SMOOTH SAILING—Canadair's CL-215 "water bomber" is shown during take-off from Canadian Forces Base, Rockcliffe, near Ottawa, Quebec. Valuable as forest fire fighters (scooping up a bomb load of water by skimming a lake surface) they have been ordered by Air Services of Province of Quebec and French government. First of 30 on order came off Canadair's assembly line last July and took first flight in October.

Canadair 'Water Bomber' Piles up Flight Time

The water-testing phase of Canadair's CL-215 water bomber is well under way with the No. 1 aircraft having made more than 130 flights, including takeoffs and landings from water, and dropping a 1,200-gallon water load.

Testing has been conducted at Canadian Forces Base, Rockcliffe, near Ottawa, with Chief Pilot Bill Longhurst at the controls during the initial maneuvers and the first water takeoff from the Ottawa River.

Of the more than 130 flights, more than 40 have been made from water, with a total ramp-to-ramp time of 170 hours.

The No. 2 aircraft has now completed more than 22 flights for a total of 36 hours.

Following the first drop on May 30 of 1,200 gallons, a total weight of 12,000 pounds, Doug Adkins, Canadair pilot, who has made a number of similar drops with other airplanes, expressed his satisfaction with the aircraft.

"The aircraft handled very well during the flight and the drop," he said.

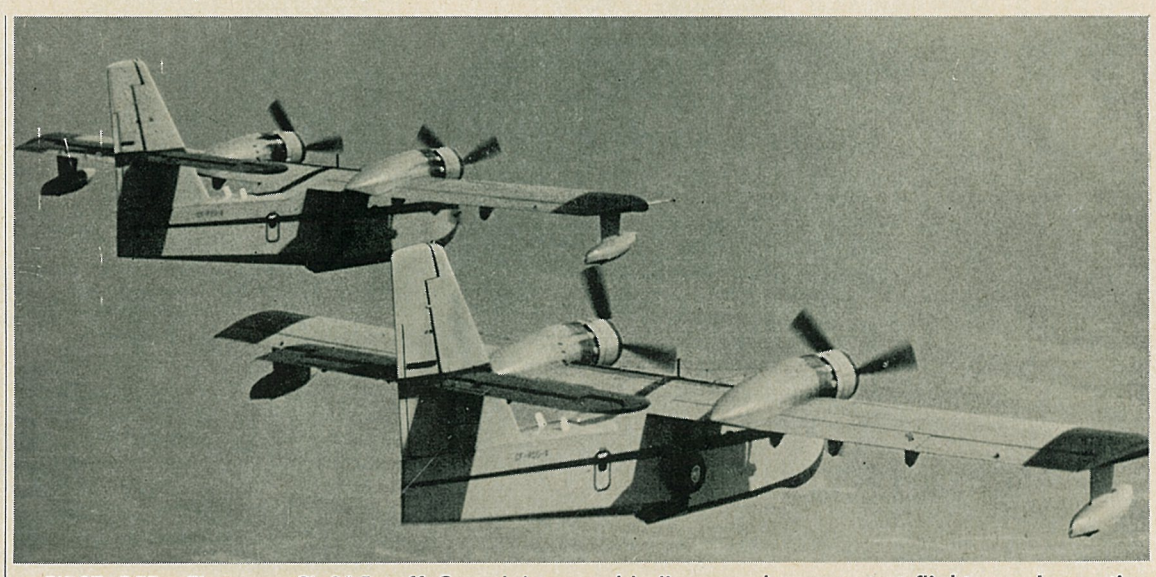
Chief Pilot Longhurst also indicated his satisfaction with the program.

"No. 1 aircraft has flown extremely well," he said. "And we are very pleased to date with the water handling phase of the tests."

A pilot from Canada's Department of Transport will soon be at Canadair for takeoff and landing training in the CL-215 after which he will make regular flights in the water bombers as they continue the test program.

Aircraft No. 3 is now in preflight and is expected to be ready for flight in mid-July.

Meanwhile, tests continue with the two aircraft, and, depending on the test program, a series of flying demonstrations is planned at air shows in British Columbia and Central Canada, culminating at the annual Canadian National Exhibition in Toronto.



FIRST OFF—First two CL-215s off Canadair assembly line are shown on test flight over Laurentian Mountains.

Craftsmanship

Do Good Work

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

JAMES L. BUDROS (1942) from Corporate Headquarters to Quincy division as director of industrial relations; **RALPH MEDROS** (1967) from Corporate Headquarters to Quincy as director of materials and procurement; **EDWIN G. BANNING** (1955) from Fort Worth to manager of purchasing, Quincy; **ROBERT J. ROHRS** (1967) from Convair to dockside engineer, Electric Boat; **ALAN E. HACKER** (1966) from Convair to Corporate Headquarters; **JOHN E. HANGARTNER** (1959) from Convair to design assurance engineer, Electronics-SD; **JOHN B. STODDARD JR.** (1960) from Electric Boat to planner, Quincy; **CHARLES R. JACKMAN** (1952) from Convair to Quincy; **ROBERT L. BOTTOMS** (1961) from Convair to project engineer, Electronics-SD; **N. J. BEAUCHAMP** (1966) from Electronics-SD to senior engineer, Quincy; **JOHN J. HEALY** (1960) from GD Washington Office to data systems marketing manager, Electronics-SD; **EDWARD J. REID** (1950) from Convair to Datagraphics; **THOMAS S. SEARY** (1961) from Convair to Corporate Headquarters; **MILES L. BOWLER** from Corporate Headquarters to procedures analyst, Datagraphics; **R. E. BOGARDUS** (1953) from Electronics-SD to Quincy.

Safety Shoe Avoids Injury in Scotland

A pair of safety shoes purchased at Convair division kept a U. S. Marine from losing toes in a traffic accident in Scotland.

Mrs. Betty Krohn, secretary in Dept. 130-0, purchased the "hush puppy" shoes for her son, Cpl. Tom Jones, 20, who is stationed in Edsel, Scotland.

As an auto in which the young Marine was riding went out of control and rolled, a door opened then closed and pinned the toe of the right shoe. Although the leather was cut away from the steel safety plate, there was no injury.

Fort Worth Man Elected by SAWE

H. R. Thompson, Fort Worth division senior design weight engineer in Dept. 63-4, was elected vice president of the Society of Aeronautical Weight Engineers at the organization's recent annual conference in New Orleans.

He will be in charge of communications for the 1,400-member society and also be responsible for the society's technical journal (SAWE Journal).

Thompson served as vice president of the society in 1964-65. He is a past chairman of the North Texas Chapter of the society.

Namesake

Nuclear Submarine Launching Recalls Seahorse of WWII

Electric Boat division last week launched Seahorse, a sleek, 292-foot, nuclear-powered attack submarine whose namesake sunk 73,000 tons of Japanese shipping in World War II.

The old Seahorse was commanded by Cdr. Slade D. Cutter, a former All-American tackle at the Naval Academy who, when he took over the reins of the Seahorse, was best remembered as the midshipman whose 25-yard field goal beat West Point on a rain-drenched field in 1934.

Cutter was soon to win greater fame, however, as the submarine skipper who provided the Japanese fleet with some of their toughest competition in the Pacific.

Few were better suited temperamentally to their job than Cdr. Cutter, whose six-foot, two-inch, well-muscled frame barely squeezed through the Seahorse hatches. With the same aggressiveness that also won him the heavyweight boxing title during his Annapolis days, he delivered one lethal punch after another to enemy shipping.

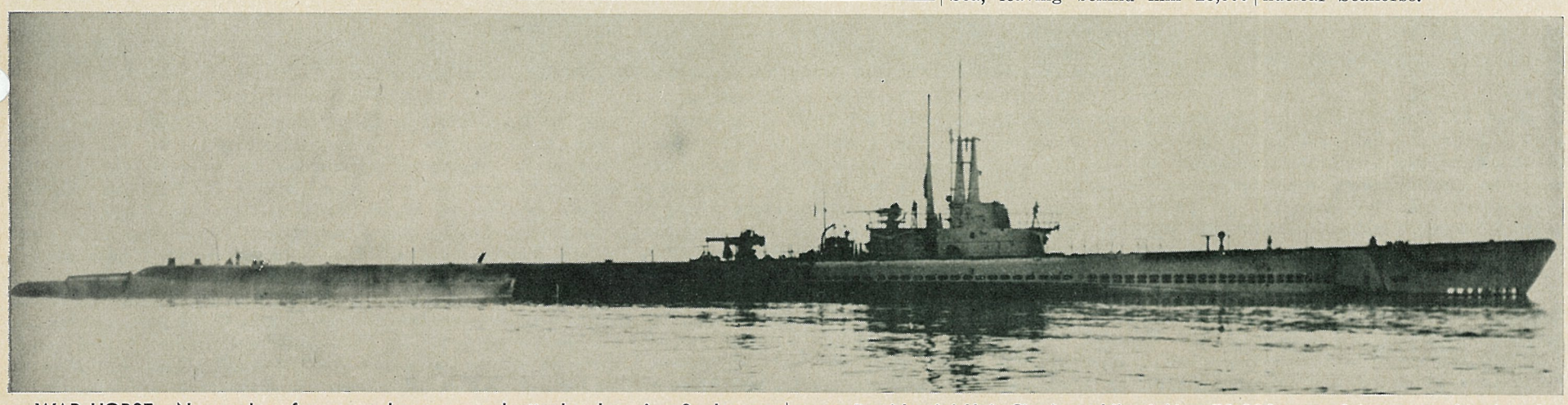
When Cutter took over his 311-foot sub in October, 1943, he wasted no time. Within a month he had sailed through two large enemy convoys in the East China Sea, leaving behind him 28,000 tons of sunken Japanese shipping.

Unlike today's high-speed nuclear ships, the World War II diesel-powered submarine was handicapped by the length of time she could remain submerged before her air supply was exhausted. Cutter's Seahorse was no exception, so like her sister ships, her deck was rigged for surface combat with one five-inch .25 caliber gun, one 40-mm and two .50 caliber machine guns.

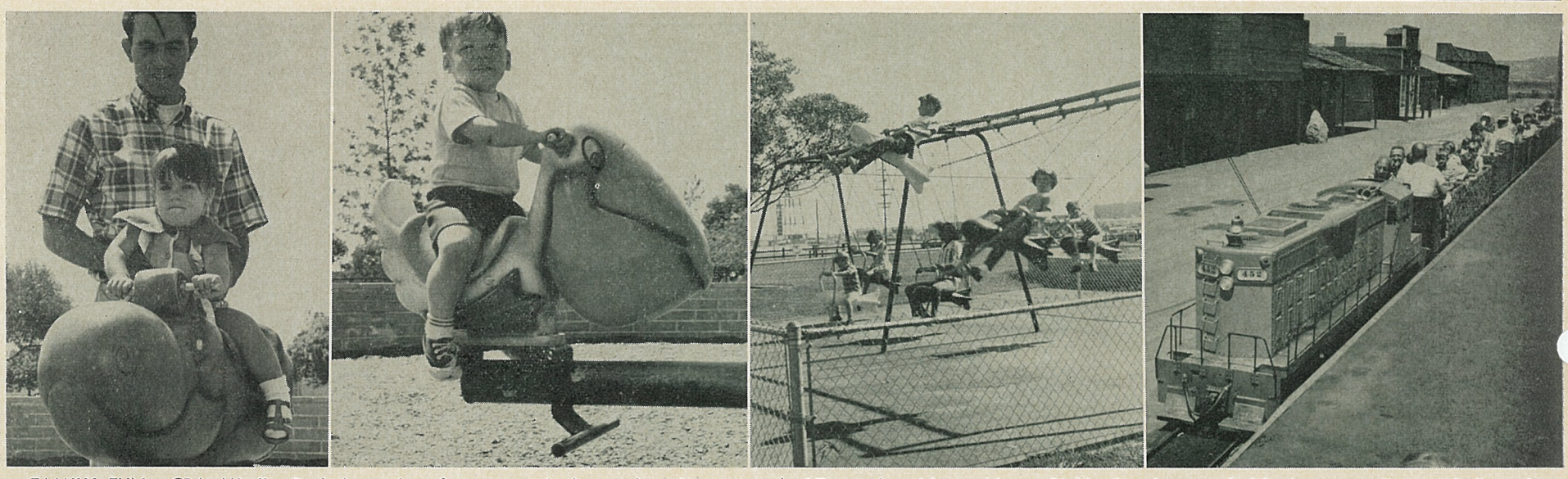
The nuclear attack ship launched at Electric Boat division last week will resemble her predecessor in name only. There are no guns on her decks because none are needed. This breed of Seahorse can remain submerged almost indefinitely and travels in excess of 20 knots — a far cry from her World War II predecessor.

The new Seahorse will also carry highly sophisticated electronic sonar and weapons systems, which have replaced the need for the daring, close-in fighting tactics that were executed so well 25 years ago by sub skippers like Slade Cutter.

Cutter, now a retired Captain living in Tucson, Ariz., was elected to football's hall of fame in 1967. He was among the guests at the June 15 launching of the nuclear Seahorse.



WAR HORSE—Namesake of new, nuclear-powered attack submarine Seahorse, launched June 15 at Electric Boat division, this now-retired deep-sea charger won Presidential Unit Citation while sinking 73,000 tons of Japanese shipping during World War II.



FAMILY FUN—CRA Missile Park is setting for many picnics and outings now that summer is here. From left: Ben McClure lends hand as daughter, Jacqueline, 17 months, rides a hippo; Richie Engebretson holds down a pelican; missile swings make a big hit; Leo Heyob pilots miniature train.

Safety Statistics Reveal New Slants on Accident Timing

An hourly employe between the ages of 20 and 30, who has been with Convair less than a year, needs to be extra careful.

The reason is that a recent analysis of accidents during 1966 and 1967 indicates that employes in this category are most likely to suffer accidents.

And, although no one seems to know why, the "most dangerous time and place" is on the third shift on a Thursday in March, at either Lindbergh Field or Plant 19.

Safety department is presently "re-educating" hourly factory employes with a program of accident statistics and case histories. The indoctrination is in addition to safety presentations given to all new employes.

To date, approximately 2,600 have heard the safety presentation under a program which began in October, 1967 and will continue until all hourly factory employes have been reached.

"This program is primarily for the good of the employe because he is the one that suffers the pain and loss of work if an accident occurs," said John Hopman, Convair chief safety engineer. "Accident statistics for 1966 and 1967 show that 67 per cent of all serious injury accidents were caused by carelessness and inattention, and 30 per cent were caused by violation of safety rules and improper use of equipment. Thus, approximately 97 per cent of all our accidents are the result of 'people' problems, and not a lack of equipment or safety devices. They can only be reduced by 'eight-hours-a-day' safety awareness by all concerned."

The safety department study of serious injury accidents reveals interesting patterns that are not readily explainable.

"For instance," said Hopman, "it has been thought that Mondays and Fridays were the worst days for accidents because a worker's attention could be distracted by either the coming or the past weekend. But statistics show that more accidents happen on Thursday. We don't know why.

"Also, we have no explanation for the fact that more accidents occur during the second two hours of work. It had always been thought that the first and last two hours would be the worst.

"And why more accidents happen in March instead of during a holiday month such as December — that's anybody's guess."

Hurlich Presents Paper on Titanium

Abraham Hurlich, Convair division manager of materials and processes, was in London, England, recently to present a technical paper at the International Conference on Titanium.

The paper on "The development of a superior titanium-base alloy for cryogenic application" is a consolidation of material from papers by Hurlich and Charles J. Kropp, Convair senior engineering metallurgist.

Hurlich has been working on development of titanium since 1948.

Convair Son Earns Medicine Degree

Ronald C. Petcher, 25, son of Sam Petcher of Convair's reliability control Dept. 140-2, received an M.D. degree from the University of Cincinnati College of Medicine June 13.

Petcher, a graduate of Helix High School and San Diego State College, is an ensign in the Navy Medical Corps (reserve) and will interne at Great Lakes Naval Hospital.

Mason Named Operations Vp

Appointment of Jack Mason as vice president for operations was announced at Pomona division by C. F. Horne, president.

He succeeds G. E. Sylvester as head of operations departments. Sylvester is transferring to the Fort Worth division.



Jack Mason

Mason received a bachelor of science degree in physics in 1937 from the University of California at Berkeley and has completed additional studies at the California Institute of Technology and the University of California at Los Angeles. He was associated with the Western Geophysical Co. for three years before joining the engineering department at Consolidated Aircraft Company in San Diego in 1940.

In 1944 he became a supervisor for the aerodynamics group and later was project engineer for the design and construction of the low speed wind tunnel at San Diego.

Mason came to Pomona division as assistant chief engineer for administration in 1958, became a member of the division staff in 1960 and, since 1961 has served as director of engineering.

Scripps Authority To Talk on Whales

Dr. Theodore Walker of Scripps Institute of Oceanography will speak and show slides at a CRA Radio Club meeting June 20, 7:30 p.m. in CRA Clubhouse.

Dr. Walker is an authority on whales and his talk will deal with their migration to the Baja, Calif. peninsula.

'Kearny Mesa Railroad' Tops 100,000 Mile Mark

"Kearny Mesa Pacific Railroad," major attraction for the younger set and many of their parents at CRA's Missile Park, has logged more than 100,000 passenger miles and now is in its fourth summer of operation.

Members of the CRA Model Railroad Club built and maintain the train and are operating it on Saturdays, Sundays and holidays. Passengers last summer totaled 28,000.

Leo Heyob of Convair's Dept. 250-0, club president, said more model railroad "buffs" are needed to help with maintenance and improvements and as volunteer engineers, firemen and conductors.

The conductor, in addition to taking tickets, is "in charge" from his seat in the caboose, keeps an eye out for safety hazards and can talk to the engineer and passengers in each car on an intercom system. Club work sessions are held Saturday mornings.

Club members spent more than 20,000 off-duty hours during 2½-years working on the Kearny Mesa Pacific before the locomotive first turned its wheels on the half-mile mainline track in 1965.

The 4,800-pound locomotive, powered by a used Chevy II engine and a hydraulic drive, is a ¼-scale model of a diesel-electric, right down to the "official" paint donated by Union Pacific.

Ninety per cent of the parts that went into the locomotive were fabricated by club members, including the frame, wheels, axles and throttle valve. Heyob, Tom Buckley and Marty Stutz were among those who played key roles in the project.

The train's five cars, also constructed from railroad blueprints, were built in Heyob's garage workshop and are now outfitted with an electric door-lock system. The club hopes to add two new cars, including a "cattle car" for little tykes, in future months.

Proceeds from the 10-cent ride tickets are used for operating and maintenance expenses and improvements.

During the annual "overhaul" period this spring, the train's electrical system was rewired, mechanical parts were overhauled, a new engine throttle drive system installed and gravel was placed under a section of track to improve drainage.

Club members plan to replace the locomotive's engine with a new four-cylinder diesel in the near future and hope later to add a steam-powered locomotive to the line's "rolling stock."

Al Kent of Convair's Dept. 403-2 is the club's commissioner. Officers, in addition to Heyob, are Charles Fisher of Stromberg Datagraphics, Inc., vice president, and Keith Bennett of Convair's Dept. 763-0, secretary-treasurer.

New Hours Set For Safety Cribs

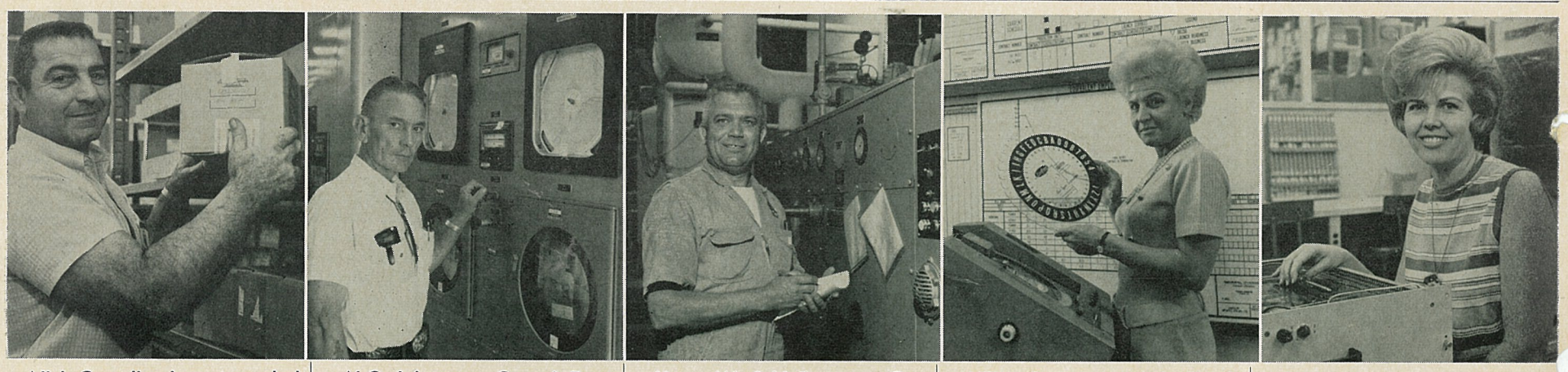
Safety Crib hours for Lindbergh Field, Kearny Mesa and Plant 19 have been revised. Locations and times are:

Lindbergh Field, Bldg. 16: Monday through Friday, 8:30-11:45 a.m.; Tuesday and Thursday, 12:30-5:15 p.m. and 3:30-5:15 p.m. Wednesday.

Plant 19, Bldg. 2, 1st floor, Col. B-9: Monday through Friday, 12:45-5:15 p.m. with the exception of Wednesday when the crib will close at 3:15 p.m.

Kearny Mesa, Bldg. 5, Col. H-1: Monday, 8:30-11:45 a.m.; 3:00-5:00 p.m.; Tuesday and Thursday, 8:30-11:45 a.m.; Wednesday and Friday, 12:30-5:00 p.m.

Employes may obtain safety glasses and check out safety equipment at any of the cribs.



Nick Cracolice is a store clerk in Dept. 8720 at the El Cajon plant of Stromberg Datagraphics. He has been with Datagraphics for seven months, having recently retired from the Navy after 32 years of service. Cracolice spent the last 10 years of his Navy career as a warrant officer with the Recruit Training Command in San Diego. He is a native Californian, born and raised in San Jose and has made San Diego his home since he was first stationed here. He and his wife live in the Serra Mesa district.

Al G. Johnson, a Convair Dept. 756-0 engineering test mechanic, is shown running a temperature-humidity test on a propellant utilization vehicle-borne electronics "package" in an environmental chamber in Bldg. 4 at Kearny Mesa. The chamber can be used to subject test articles from 350 degrees to —100 degrees F. Johnson has been with Convair 28 years, including assignments at Edwards AFB; Abilene, Texas, Sycamore Test Site. He lives in the Lake Murray area with his wife and four children.

Henry W. Schleibaum, a Convair Dept. 250-1 stationary engineer, is shown at Kearny Mesa plant powerhouse checking controls for high-temperature water boilers which produce 50 million BTUs of heat per hour when both are in operation. Paradoxically, some of the 400-degree water is used in absorption units for air conditioning the electronics factory in Bldg. 33. Schleibaum is a retired Navy chief boilerman and has been with Convair 11 years. He lives in East San Diego with his wife, Janet, and four children.

Lillian Scott, a statistical technician in Dept. 953-2 at Kearny Mesa, uses Varityper Headliner machine for photographic production of type for use on a variety of Convair launch vehicle programs status charts and graphs. She has been with Convair eight years and formerly worked three years as a Navy Department secretary in Washington and three years in Illinois checking income tax forms for the Internal Revenue Department. She lives in East Clairemont, has four children and enjoys golfing.

Shirley Reeves, a utility operator in Dept. 8621 at Stromberg Datagraphics in El Cajon, is working on a power supply for an S-D 4060 printer. She was with Stromberg-Carlson at the Hancock Street plant for 10 years and was off for a time, but has been back for a year now at the El Cajon plant. She lives in the College Grove area with her two children, Stephen, 7, and Tina 2. The family keeps her busy on weekends, she says, which is the time they all look forward to for family outings in the country.



NEW OFFICERS—Recently elected officers of Electronics-SD Management Club will be installed tonight. Seated from left: C. T. Bach, secretary; R. E. Fixsen, president; and R. L. Williams, first vice president. From left, standing: C. N. Bagaloff, new three-year member of the board of control; S. Spalter, board of control hold-over; R. H. Nicholson, board of control hold-over; J. R. Taber, second vice president. Absent is J. H. Cooper, treasurer.

Electronics-SD's Mgt. Club Slates Installation Program

R. E. Fixsen will be installed tonight (June 19) as president of the Electronics-SD Management Club in ceremonies at the Miramar Naval Air Station Officer's Club.

Fixsen, who succeeds E. R. Peters, served as second vice president last year.

The installation ceremonies will be conducted by W. E. Magnuson, Zone A director of the National Management Association.

Other new officers to be seated by Magnuson will be R. L. Williams, first vice president; J. R. Taber, second vice president; J. H. Cooper, treasurer; C. T. Bach, secretary.

C. N. Bagaloff will be installed as new three-year board of control member.

Speaker for the evening is Floyd Corbin, nationally known lecturer, whose topic will be: "How to be the Winner You Want to Be — A Formula for Achievement."



PARTY PLANNERS—Convair Wives Club has scheduled membership tea for prospective members June 26. Shown at planning session, from left, are Mrs. I. E. Whitbey (membership chairman), Mrs. L. F. Klepach, Mrs. John McIntyre and Mrs. Arnold Ramberg.

Wives Club Membership Tea Planned 1 to 3 p.m. June 26

Wives of all General Dynamics employes and customer and associate contractor personnel in the San Diego area have been invited to attend a Convair Wives Club membership tea from 1 to 3 p.m. Wednesday (June 26) in the CRA Clubhouse auditorium.

Mrs. Paul W. Brock, president, said 150 to 200 prospective new members are expected to attend.

Reservations can be made by phoning Mrs. Brock, 583-1474, Mrs. I. E. Whitbey, 283-8971, or Mrs. L. F. Klepach, 264-1013.

Booklets describing the club and listing scheduled activities for the year will be presented. Guests will be introduced by Mrs. Arnold Ramberg and past presidents of the club will serve as hostesses.

Membership in the club is open to wives of all employes of Convair, Electronics-SD, Stromberg Datagraphics, Inc., and other General Dynamics units and DCAS, NASA and Associate contractor personnel as well as wives of retired employes and widows of deceased employes.

The club holds luncheon meetings the third Wednesday each month at a San Diego area restaurant, and potluck luncheons the fourth Wednesday each month in CRA Clubhouse.

Datagraphics Diver Takes Top Honors

Herb Boynton of Stromberg Datagraphics brought in four abalone measuring a total of 34⅝-inches May 19 to take top honors in the CRA Delta Divers' first competition dive of the 1968-69 club year at Whale View Point in La Jolla.

Runners-up among the 19 participants were Jorge Zorilla and Bob Nicholas of Convair.

Largest abalone catch for the club's 1967-68 year measured 9¼-inches and was brought in by Zorilla in January.

You can buy U. S. Savings Bonds regularly for as little as 50 cents a week.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is June 25. Call ext. 1071 LF or 3322 KM. All meetings are held in CRA Clubhouse unless otherwise noted.)

★ ★ ★

ADVENTURERS — Meeting tonight, 7:30 p.m. Weekend campout to San Gorgonio wilderness, June 22-23.

BADMINTON—Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BICYCLE CLUB—El Monte Park 25-mile ride June 22, 9 a.m. Start at Parkway Bowl, Fletcher Parkway, El Cajon

BONAIR FLYERS—Meeting July 2, 7:30 p.m.

BRIDGE—Play each Friday, 7:30 p.m.

CAMERA CLUB—Meet third Sunday each month, Photo Arts Bldg., Balboa Park.

CERAMICS—Meet Tuesdays and Thursdays, 7-10 p.m.

CHESS—Play each Wednesday, 7 p.m.

CHORUS—Rehearsals 7:30 p.m., Mondays.

COINEERS—Meeting tonight, 7:30 p.m., Convair cafeteria, Lindbergh Field.

DELTA DIVERS—Meet second Wednesday each month, 7:30 p.m.

FENCING—Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FISHING—Meet third Tuesday each month, Gillespie Field Clubhouse. Potluck 6:30 p.m.; meeting 7:30. Weekend trip to Lake Wohlford, June 29-30.

GARDEN CLUB—Meeting July 3, 7:30 p.m., Floral Assn. Bldg., Balboa Park.

GOLF—NMA tourney June 29-30, Torrey Pines. Call Terry Kell, ext. 1900 LF.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Monday through Friday; 10 a.m. to 5 p.m. Saturday.

HI/FI MUSIC—Meet second Tuesday each month, 7:30 p.m.

ICE SKATING—GD family skate night Thursday, 6:15-7:45 p.m., Mission Valley Ice Arena.

MINIATURE RAILROAD—Operating sessions Saturday, Sundays and holidays, CRA Missile Park.

MODEL HO RAILROAD—Work sessions 9 a.m. Saturday; 7:15 p.m. Tuesday, CRA Missile Park.

PISTOL CLUB—Shoot June 23, 9:15 a.m., San Diego Police Pistol Range.

RADIO CLUB—Meeting and slide presentation June 20, 7:30 p.m.

RIDING CLUB—Meet second Wednesday each month, 7:30 p.m.

ROCKHOUNDS—Meet second Wednesday each month, 7:30 p.m.

SCULPTURE—Workshop sessions Monday, 7-10 p.m.

SAILING CLUB—Meeting June 26, 7:30 p.m.

SPORTS CAR CLUB—Meet second Wednesday each month, 7:30 p.m.

TENNIS—Beginner's course, Saturday starting June 29, 10-11 a.m. Call ext. 1111 KM.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m.

WIVES CLUB—Membership tea, June 26, 1-3 p.m.

WOMEN'S GOLF—Third Annual Ernie Paul Memorial Tourney, July 13, Mission Bay Course.

Nell Bartlett's 80 Low in Women's Golf

Nell Bartlett with an 80 and Evelyn McFall's 88 took low net awards at the June 8 GD Women's Golf Club tourney over Whispering Palms course.

Runners-up were Jean Hawthorne and Jeannine Letzring who also won a merchandise certificate for being longest off the tee on the 16th hole.

Next month's tourney, July 13, will be the Third Annual Ernie Paul Memorial Tournament, at Mission Bay course, honoring the founder and organizer of the ladies' golf group.

Beginning Tennis Course Scheduled

CRA Tennis Club will offer a 10-week course for beginners from 10 to 11 a.m. Saturdays beginning June 29 at the CRA courts.

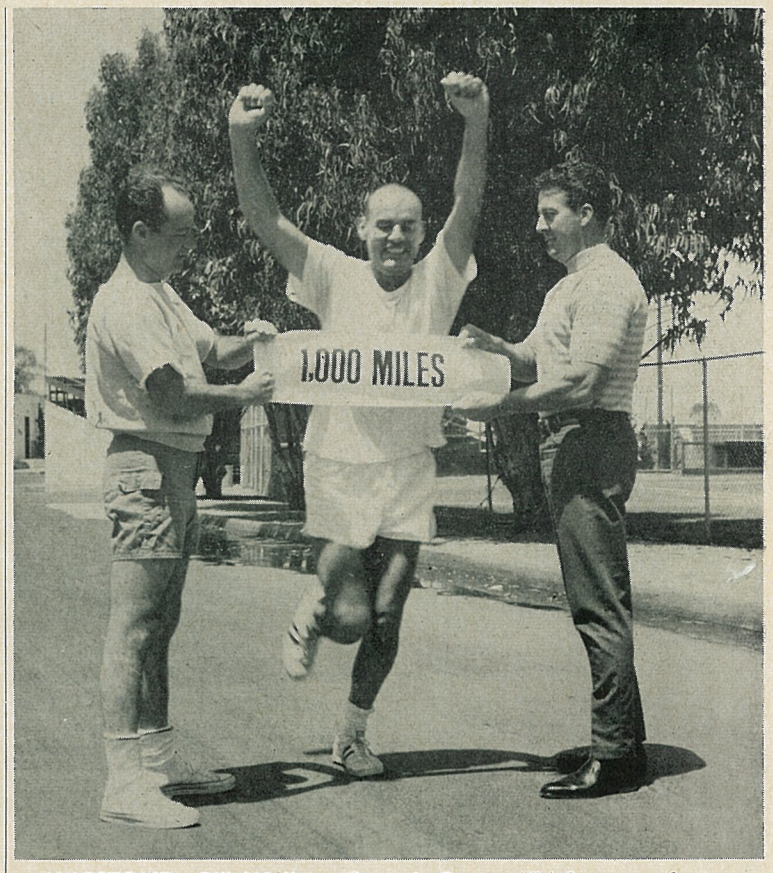
The course will be open to General Dynamics employes and members of their families. A charge of $3 will be made to cover cost of balls and for trophies to be awarded in a tournament at the end of the course.

Call Bob Herold, ext. 2360 KM, for enrollment.

Convair Man Lauded For 'War on Litter'

Mayor Frank Curran of San Diego has presented a certificate of merit to Frederick L. Costa, a hydraulic test engineer in Convair's Dept. 578-1, for his assistance in the city and county "war against litter."

Costa, a member of the San Diego Outboard Boating Club, organized a San Diego bay clean-up campaign last November in which the club and San Diego harbor police assisted.



MILESTONE—Bill Walker, Convair Dept. 454-0 group foreman, breaks tape to signify completion of 1,000 miles since CRA Health Club running program began Oct. 1. Holding tape are Joe Ragusa, Dept. 170-1, left, and Ralph Mansfield, Health Club director.

Runner Completes 1,000 Miles In Health Club Fitness Program

William R. Walker of Dept. 454-0 recently became the first Convair employe to complete 1,000 miles in the CRA Health Club's running program since it began eight months ago.

About 150 are running from the Health Club regularly to improve their physical condition — with 125 keeping an accurate daily record of miles covered.

Ralph Mansfield, Health Club director, said five or six of the runners expect to complete 1,000 miles by Oct. 1, end of the first year of the running program.

Each man reaching the 1,000-mile mark is to be given a "sweat suit" with CRA emblem.

Following Walker in total distance run at the end of May, and miles run by each, were Wayne Groesbeck, 875, Richard Christopher, 778, and Fred Minter, 720.

Because of employe interest and participation in the running program, CRA is planning to develop a good surfaced track for distance running.

Recommended routes are being laid out by Mansfield for trial use and evaluation. One being evaluated is a 1½-mile circuit that begins and ends at the CRA Clubhouse and runs adjacent to Clairemont Mesa Boulevard and Ruffin Road.

Beginning Spanish Class Will Start

A CRA sponsored beginner Spanish class will start tomorrow and continue for eight weeks at the CRA Clubhouse. Sessions will be from 7-9 p.m. each Thursday.

Common phrases and basics of the language will be taught by Convair's Jim Hardison. Students will work from their own notes with no text required. By dialing 276-2762 they also will be able to practice certain phrases through two minute recordings.

Cost is $1 per session with enrollment at the first class or by phoning ext. 1111 KM.

Halfacre, Walker Shoot 286 Scores

Jim Halfacre and Warren Walker finished with 286 in .22 caliber master class competition in last weeks CRA Pistol Club shoot. However, Halfacre's 9 Xs placed him first, three better than Walker who finished with 6.

Dick Sutton won expert class with 271 and the .45 caliber Short National event went to Halfacre with 264.

Pistol Club matches are held the second and fourth Sundays at the San Diego Police Pistol Range, 9:15 a.m.

June 20 Is Deadline For Regional Golf

Tomorrow (June 20) is deadline for entering the Western Regional National Management Club golf tourney June 29-30 at Torrey Pines.

Last minute entries are being accepted by Terry Kell at ext. 1900 LF.

Mission Gorge Road Bike Ride Planned

CRA Bicycle Club has scheduled a 25-mile El Monte Park ride Saturday (June 22), starting at 9 a.m. from Parkway Bowl at Fletcher Parkway and Cuyamaca Street in El Cajon.

The group will pedal along Mission Gorge Road through Santee and Lakeside and will have lunch in the park. John Gacho, ext. 1469 LF, is ride leader. Dave Lukens, awards chairman, will announce the riding awards program for the coming year.

Although threatened by inclement weather, 11 riders enjoyed dry roads on the 50-mile San Pasqual Valley cycle tour June 8. They saw San Pasqual battleground historical monuments, and had a light lunch at a general store near Ramona.

Tennis Pro Available For CRA Families

CRA Tennis Club has arranged for Tony Haber, a professional instructor, to give tennis lessons to General Dynamics employes and members of their families at CRA courts and other locations.

Cost for ½-hour lessons is $3.50 for individual instruction, $2.50 per person for two individuals and $2 per person for groups of three or more.

Instruction schedules can be arranged by phoning Haber at 297-1398 after 6:30 p.m. or by calling the CRA Health Club, ext. 1111 KM, and leaving a message.

Junior Riders Plan To Enter Fair Show

Junior riders of the CRA Riding Club have reserved stalls and will be showing their horses in the National Junior Horse Show at the upcoming Del Mar Fair, June 26, 27 and 29.

The entire Watson family, David, Davey and Judy will be entered along with Mickey Donahoo, Sheri Special, Sandy Nash, Susan Harmer, Sue Michie, Ricky Davidson, Claire Doris and Terry Hyder.



NEW PRODUCT—Joseph E. Carlin, left, inventor of Dynaflare machine, and Nathan Rosenfeld, president of Dynaflare Industries, Inc., check tube end flared by new production model. Convair division has licensed firm to produce and market machines.

Los Angeles Firm to Market Convair-Developed Dynaflare

Convair division has licensed a new Los Angeles industrial firm, Dynaflare Industries, Inc., to manufacture and market industrial models of the division-developed Dynaflare precision tube-end flaring machine.

Dynaflare has undergone extensive leak-proof, fatigue and production-run testing at Convair's Kearny Mesa plant and by commercial testing laboratories since it was designed by Joseph E. Carlin, a tool development engineer, in 1964.

The prototype has been used to produce high-precision 33 to 37-degree flares on ⅛ to 1¼-inch tube ends for use in standard flared connectors for Atlas and Centaur launch vehicles since it was placed in production use in Dept. 733 in 1965.

It also has been used for forming 90-degree flanges on tube ends for use in Atlas vernier engines and "inverted" tube ends for F-111 pylon air and fuel disconnects.

Carlin said thousands of flares have been produced by the prototype machine in alloy and stainless steel tubing with no known leaks or failure from their use.

Dynaflare production models are expected to have wide use in aerospace, aviation, automotive, refrigeration and other industries where precision tube flaring is needed for both short and long-term use in applications involving high-pressure and hard-to-contain liquids and gases.

Unlike the prototype, production models have one-piece, solid-steel housings for enclosing dies and punches for tube flaring operations.

First production models, designed primarily for the aerospace industry, are the Model B-50 for flaring ⅛ to ⅝-inch-diameter, the Model B-150 for ¾ through 1½-inch-diameter, and the B-300 for 1¾-inch and larger diameter tube ends.

Dynaflare Industries will offer a complete engineering service to provide tooling for special tube-end and ducting configurations for industrial applications. Carlin has joined the firm and will direct production.

The Dynaflare uses electro-hydraulic power to actuate a clamping device and a ram device that forces a punch into the tube to expand or flare its end to the desired configuration. The controlled-sequence, mechanical-cycle operation eliminates need for skilled operators.

Convair division has filed a patent application covering the Dynaflare concept. The division will receive a percentage of sales for the machines marketed by Dynaflare Industries, Inc.

Fixsen and Wallace Earn '68 Electronics Awards

Two San Diego operations employes have received the Electronics division's 1968 General Manager's Awards for "outstanding personal contributions to the division."

The awards, announced recently



H. A. Wallace R. E. Fixsen

by Parker Painter Jr., division general manager, were made to R. E. Fixsen, program manager, and H. A. Wallace, marketing product manager for instrumentation, and include a week-long expense-paid trip to Hawaii for the recipients and their wives.

The General Manager's Award is made to employes who have made outstanding personal contributions to the division, and whose achievements have significantly added to profitability.

The awards to Fixsen and Wallace were based on their joint effort in the engineering and marketing development of a transponder system for a new customer, which has resulted in new contracts for four separate transponder programs.

"These contracts are a base for significant follow-on orders that should provide Electronics a substantial position in the long term transponder market," said D. C. Prim, manager at San Diego.

Fixsen and Wallace were selected from a list of nominees representing all of the division's operations.



SCHUTZ APPOINTED BY SERVICE CLUB

Charles G. Schutz, Convair Dept. 130-9 college recruitment and relations coordinator, has been appointed deputy district governor of Lions International. A past president of the La Jolla Lions Club, he will have 15 Lions clubs in the San Diego area under his jurisdiction.

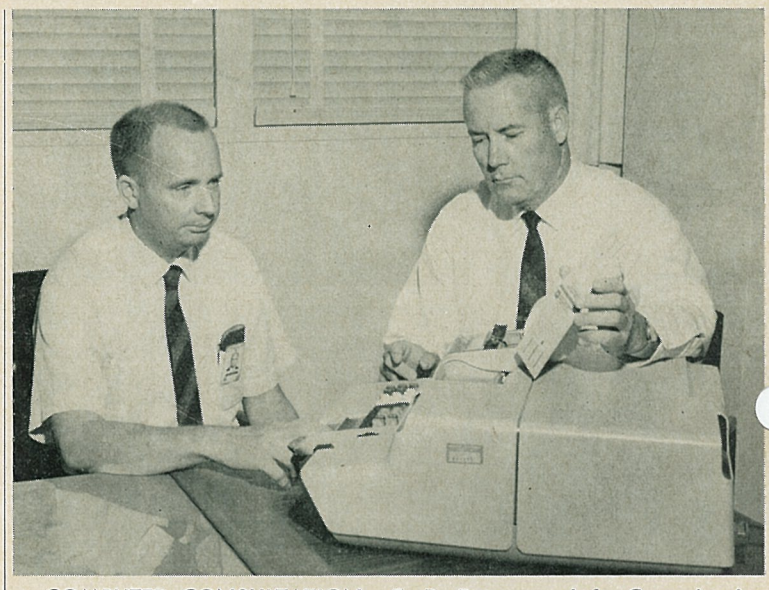
Star II and III Will Support Oil Operations

Electric Boat division and Divcon, Inc. of Houston, Texas have signed a long-term cooperative agreement for the services of the General Dynamics Star submarines. Under terms of the agreement, Divcon, world's largest deep sea diving contractor, will lease Star II and Star III for support of offshore oil operations on a worldwide basis.

In the past, offshore oil operations have been conducted at a maximum depth of 600 feet. Recently, however, major oil companies have purchased many offshore oil leases which are at 1,200 to 1,500-foot depths. Drilling on these is expected to begin within a few weeks. This move to deeper water is expected to result in a worldwide demand for undersea vehicle services to support drilling and production operations.

Both Star vehicles were built by the Electric Boat division of General Dynamics and launched in May 1966. Star II has a depth capability of 1,500 feet, a speed of three knots and a range of 12 nautical miles. Star III can operate at 2,000 feet, has a speed of five knots and a range of 20 nautical miles. Both submersibles are equipped with mechanical arms, are battery-powered and have two-man crews. They are designed for inspection, survey and photographic recording work, and can perform underwater engineering and maintenance tasks.

You can buy U. S. Savings Bonds regularly for as little as 50 cents a week.



COMPUTER CONSULTATION—E. R. Peterson, left, Convair vice president-research and engineering, and R. L. Benson, chief of mass properties Dept. 588-0, discuss versatility of desk-top computer. Benson has received commendation certificate for instituting use of computers in engineering areas.

Large Cost Reduction Predicted Through Desk-Top Computers

R. L. Benson, chief of Convair's mass properties Dept. 588-0, has been awarded a commendation certificate for implementing a cost reduction project (CRP) that will save the division an estimated $107,893 a year through use of four desk-top computers for mathematical problem-solving in engineering design tasks.

About 200 engineers in the division's aerodynamics, thermodynamics, dynamics, guidance analysis, stress group and mass properties group departments at Lindbergh Field and Kearny Mesa are using the small Olivetti-Underwood Programma 101 computers for calculations as a result of the CRP.

Three of the machines are located in different engineering areas at Lindbergh Field and one on the third floor of Bldg. 3 at Kearny Mesa.

Use of the small computers reduces use of slide rule and manual calculations, improves accuracy and reduces time required for calculations by a ratio of more than 4 to 1 — and in some cases by 40 to 1. Use of desk calculators and large computers also are reduced.

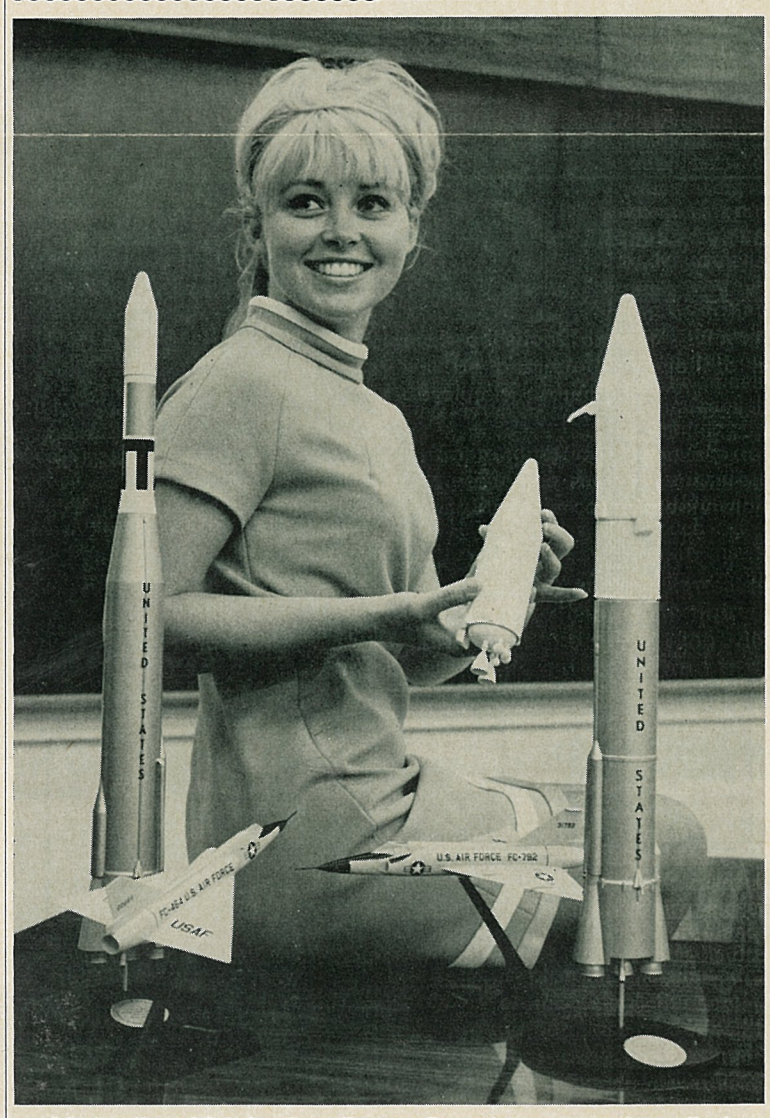
Large volumes of calculations that are routine and repetitive in nature are figured through use of the desk-top computers and magnetic cards on which formulas are "programmed." Answers are printed out at a rate of 30 characters per second.

Benson said the compact and low-cost computers fill a "wide gap" between conventional office calculating machines and highly complex and costly digital computer systems.

Keyboards of the small computers are used both for recording of "program information" and for traditional calculator functions.

The machines "read" instructions from the magnetic cards and transfer them to an internal "memory unit" for use as variables are introduced and problem solutions obtained.

Each of the magnetic cards can be used to "store" two programs of up to 120 instructions each.



CONVAIR MODELS—Toni Taura, Convair stenographer, displays models of division launch vehicles and aircraft available for purchase. In foreground are F-106A, left, and F-102A. Launch vehicles, from left, are Atlas SLV-3A with Agena, Centaur, and Atlas-Centaur.

Company Authorized to Build Models Of Convair Launch Vehicles, Aircraft

Convair division has signed an agreement authorizing a commercial model manufacturing firm to sell professionally designed plastic models of division-built space launch vehicles and aircraft to employes and other interested individuals and organizations.

Orders may be placed directly with the Walter J. Hyatt Co., 7316 Varna Ave., North Hollywood, Calif. 91605.

Models currently available and their prices are: Atlas SLV-3A with Agena, $16.32; Centaur, $13.35; Atlas-Centaur, $15.36; F-102A, $20.20, and F-106A, $20.20.

Betty Jones of community relations Dept. 100-1 said models of the 880 and 990 Convair liners also will be available after tooling for their production has been completed. Cost of these will be announced later.

Electronics-SD Son Wins in 4-H Contest

Bobby Letzring, son of Forrest L. Letzring of Electronics-SD Dept. 391, won a first place award plaque last month at the Southern California 4-H Club regional field day at the University of California at Riverside campus.

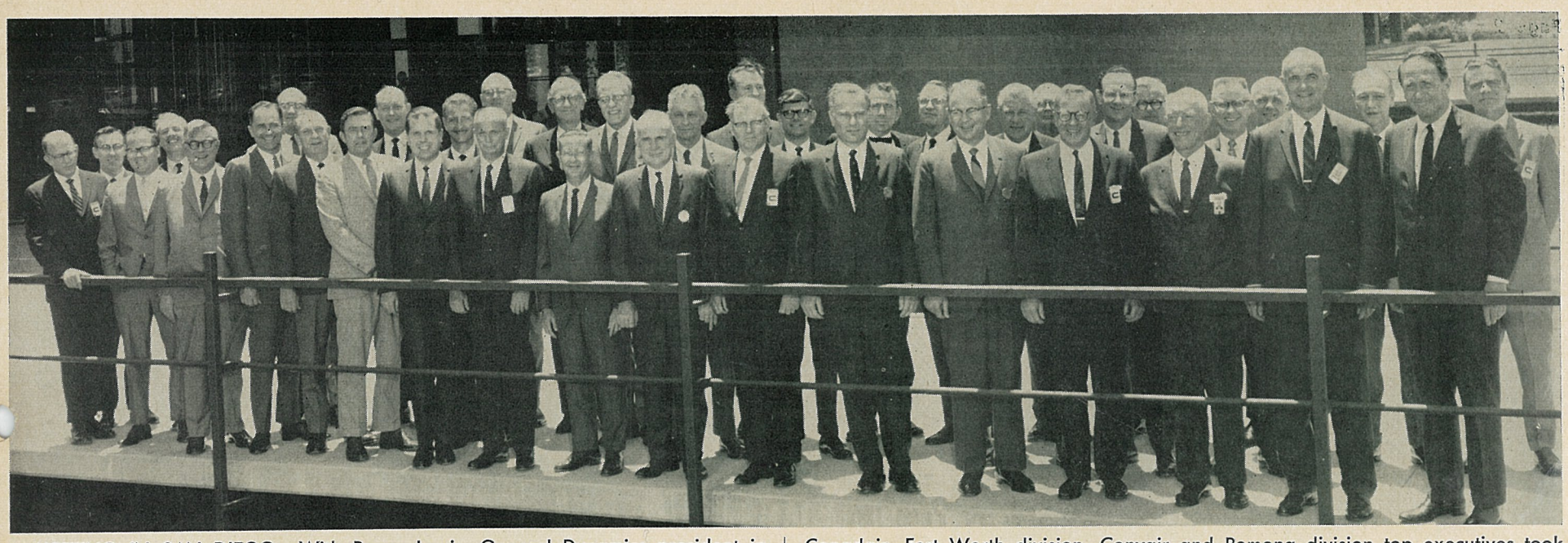
The plaque — for excellence in the field of agricultural mechanics — was for Bobby's demonstration entitled "Safety is in your hands."

Bobby also won a first place "best of breed" award for his lamb, Patsy, the following week at a 4-H Club function in his home town of Ramona, Calif.

Products Displayed At Electronic Show

A technical "Mini-Show," an informal display of small electronic components and items of equipment, was held June 11 in the LF cafeteria, and Convair and Electronics division engineers had a field day browsing through rows of displays and stacks of literature.

The exhibit was conducted by the Instrument/Component division of the Electronics Representatives Association. Representatives of 33 electronic equipment firms displayed product samples, distributed literature, and answered questions about their products.



MEETING IN SAN DIEGO—With Roger Lewis, General Dynamics president in front row right, these were representatives of GD aerospace divisions who attended long-range-planning meeting held at Convair division in San Digo last month. Canadair, Fort Worth division, Convair and Pomona division top executives took part, as well as Corporate Headquarters representatives. The Marine Group divisions are scheduled to meet next week in Groton, Conn.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

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Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

Q—Why can't salaried employes be paid one week ahead of time when their vacation starts before the normal payday—without formally requesting an advance?

A—Fewer than 25 per cent of employes request vacation advance checks. Apparently, most want to have checks come out at the regular time and either be held in the cashier's office or sent to their homes. This can be arranged by AVO to payroll. It seems best to leave the choice to the individual rather than set down a rigid edict.

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Q—I started working for Convair in 1940 and took early retirement in 1967. I was 63 last February. Am I eligible for rehire?

A—Yes. Any person under the mandatory retirement age of 65 can be hired, provided there is a need and he has the necessary qualifications.

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Q—A large chuckhole is at the Frontier Street entrance to the Plant 19 parking lot that could cause damage to cars. Can anything be done?

A—The area is city property. However, the matter was called to the attention of city authorities and hopefully repairs will be made.

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Q—Can we get some kind of security protection for parking lots at night (I refer mainly to those across Pacific from LF plant). There have been numerous cases of theft involving gasoline, tires, fuel pumps etc. How about lights?

A—Security started making regular inspections some time ago, questioning anyone who seemed to have no legitimate reason for being in the lots. This has reduced incidence considerably and the practice will continue. No provision was made for lighting when the freeway was built and a subsequent study indicated that floodlights from the pedestrian overpass would be a hazard to freeway traffic.

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Q—Can an Open House be arranged at Convair? It's been a long time.

A—Current thinking aims at an Open House in 1969, as part of San Diego's 200th Anniversary celebration. This is subject to budgetary considerations, of course, for it is expensive to host thousands of visitors.

Con-Trib-Club Committee Approves $4,525 in Donations to Nine Agencies

Convair employes Con-Trib-Club committee members in two recent meetings approved grants totaling $4,525 for nine community service agencies in the San Diego and Vandenberg AFB areas.

Included was $1,200 for the Family Service Association; $800 for Big Brothers of San Diego County, Inc.; $800 for Saint Stephen's Group Home; $500 for the Fellowship Center.

Saint Stephen's Group Home is a facility for California Youth Authority parolees who do not have suitable family homes to

(Continued on Page 2)



BIG PAYOFF—J. L. Richman, chief of material control, Dept. 843-0, LF, happily presents Employe Suggestion Award check for $1,064.60 to Evelyn B. Kellogg, material liaison, as her supervisor, D. O. Berhow (left) grins approval. Mrs. Kellogg's suggestion eliminated use of planning control sheets when updating computer tape information if planning change does not affect material. Net yearly savings is $10,646.

Lead Inspector Collects $1,423 For Materials Packaging Idea

(Photo on page 2.)

John J. Murphy, Dept. 143-1 lead inspector at Convair KM factory, has been presented a $1,423.35 Employe Suggestion Award check and certificate for a materials packaging suggestion that will save the division an estimated $28,467 annually.

A co-suggester, Robert E. Reeves, formerly a Convair Dept. 733-0 leadman and now at Fort Worth division, is receiving an identical award.

Murphy and Reeves suggested using a new type of nylon-film bag that meets high cleanliness standards instead of threaded plastic caps for protection of small precision-cleaned hardware.

The small pieces of hardware, each weighing three ounces or less, now are placed in the "clean" bag then inserted in a second polyethelene bag which is sealed in the factory clean-room area. Previously, the plastic caps were installed on each threaded surface then the piece of hardware was sealed in the polyethelene bag.

About 1,000 units are processed each week, with each having two or more threaded surfaces that formerly required installation of plastic caps.

The two bags now being used for each unit cost 8 cents — compared with 30 cents for each of the plastic caps and 4 cents for each bag formerly used. Officials said $540 is being achieved in material savings alone each week and that time also is saved since installation of the plastic caps is no longer required.

A Convair handling-packaging standard was revised to permit implementation of the cost-saving suggestion.

Salvage Schedule

Next employes sales day at the Convair salvage yard, Lindbergh Field plant, will be Saturday, July 20. Hours are from 8 a.m. until noon. Entrance is by badge. Children and pets are not allowed inside the yard.

Stack-Mate Test Insures Launch Fit

Stack-mate tests to insure proper fit of the Atlas-Centaur 16 flight article barrel section, transition adapter and fixed, split and nose fairings was completed recently at Convair's KM plant.

NASA's Orbiting Astronomical Observatory-A2, scheduled for launch in September in the AC-16 mission, weighs 4,376 pounds and will establish a new record for payload weight launched by Atlas-Centaur. The satellite is 10 feet long and 7 feet wide with its solar panels folded or 16 feet wide with the panels extended.

Application of cork and painting of nose fairing halves for the launch is scheduled to be completed later this month.

Basic fiberglass shells for the nose fairing and barrel sections were fabricated at Fort Worth division and completed at Convair,

(Continued on Page 2)

Puckett New Security Head

C. E. Puckett of Pomona division, a former FBI agent, has been appointed Corporate director of industrial security, based at Corporate Headquarters, New York City.

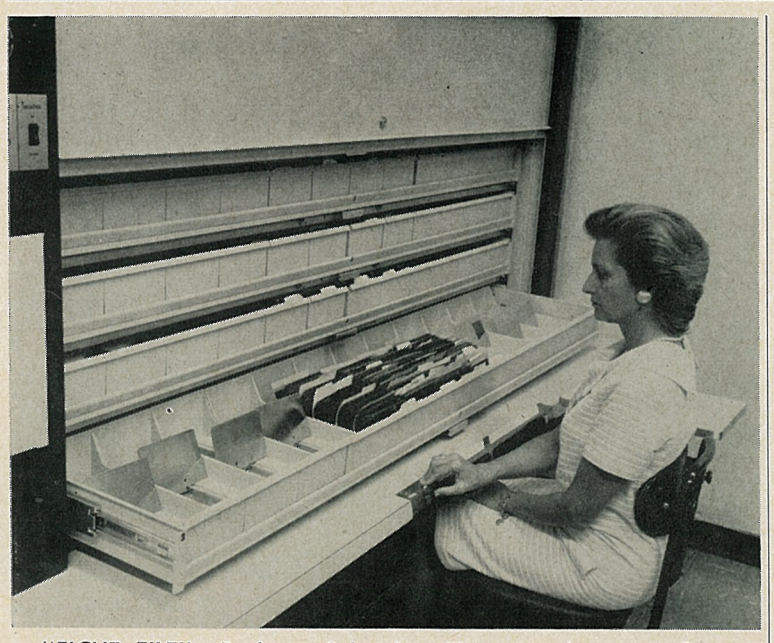


C. E. Puckett

He succeeds George Higgins, who recently transferred to the Fort Worth division.

Puckett has been employment manager at Pomona division since Oct. 1967. Prior to this he spent a year as a member of the administrative staff of the Plans for Progress Program in Washington, D. C.

Puckett started work in industrial relations in Pomona in 1960 as a supervisor of investigations. He was named supervisor of security and investigations in 1962 and manager of educational services in 1966. A native of Michigan, he took his undergraduate work at Michigan State University and did graduate work at University of Michigan. He served with the Federal Bureau of Investigation for nine years before joining General Dynamics.



"FICHE FILE"—Barbara Schrader, library assistant at Convair engineering library at Kearny Mesa, files microfiche in new electrically operated power file. Almost 50 million pages of technical reports can be stored on microfiche in cabinet.

Millions of Pages of Material Stored in New KM Library File

A Diebold power file for storing 700,000 microfiche—the first of its kind in the San Diego area—has been placed in use at Convair division's engineering library at Kearny Mesa.

Thirty-two rows of shelves in the file rotate on a conveyor belt and can be moved to the operator's position in from 3 to 15 seconds by the push of a button.

Keith Blair, library supervisor, said the library has 400,000 NASA and Defense Documentation Center-produced microfiche on file now—with only the center portion of each row of shelves being used. Each "fiche" contains a miniature reproduction of 58 to 70 pages of technical reports which may be read or copied on viewer-printer machines.

The new power file occupies only 45 square feet of library space. More than 120,000 square feet of space for 7-foot-high shelving would be required for holding an equivalent number of hard copy reports.

Course at KM Oversubscribed

Fifty-six from Convair division are enrolled in two sections of a California Western University summer course in "analytical methods 1" being given at the Kearny Mesa plant.

The course, one of nine required for the Master of Science in Management Science degree, provides in-depth study and application of quantitative methods and economic analysis, including computer technology, for business decision making.

Dr. Tore Tjersland of Cal-Western is teaching one section from 5 to 7:30 p.m. Tuesdays and Thursdays and Dr. A. L. Srbich of San Diego State College is instructor for the other from 5 to 7:30 p.m. Mondays and Wednesdays. The first class session began June 20.

Educational services said only one section was originally planned but the second was scheduled because of the number of qualified personnel wishing to enroll.

Registration was limited to employes with degrees in math, engineering or related scientific fields who hold supervisory positions or were recommended for the course by their supervisors. Several already hold master's degrees in engineering or other fields.

Tuition of $160 is being paid by Convair under the division's tuition refund program.

Continuation in the degree program during the fall semester will be limited to those having made a satisfactory grade on the admissions test for graduate study in business and having been accepted as a degree candidate by the university.

Counseling is being provided by Dr. Andrew Papageorge, assistant dean of the graduate school of business at Cal-Western. The graduate admissions tests will be given July 13 and Aug. 10 at San Diego State.

Students in Dr. Tjersland's section are Richard C. Asker, Robert Batten, Larry Bay, Kenneth Catlin, Stan Chamberlain, Francis Conover, William Crocker, James De Shazo, William Evans, Donald Ferris, Harry Harper, Robert Harris, Michael Hurley, David Junker, Richard Keehn, Kenneth Kinman, Richard Kowalczyk, Dwight Little, Fred Major, Duane Mealey, Don Moffat, Harry Obertreis, Ron Person, David Ramsey, Mike Vukelich, Leroy White, Warren Williamson and Seymour Zeenkov.

Enrolled in Dr. Srbich's section are John Beckman, Bob Carlquist, Sam Cohen, Francis Duffy, Ed Fearman, Dan Gray, Loren Haber, Jerry Hemme, Bill Herring, John Hughes, John King, David Lawrence, Tom Leech, Emory Master, Sam Mathews, Billy McGrew, Pete Mihelich, Don Miller, Larry Nelson, Gary Petzel, Frank Phillips, Mat Redlinger, Steve Rynearson, Bob Roscoe, Joe White, Jerry Wothe, Bruce Zillgitt and Joe Zintel.



TOOL DESIGNER—L. L. Schultz, lathe machinist, accepts Certificate of Award from Jack Murray, general foreman of Dept. 422, Electronics-San Diego, for new lathe tool idea which also earned award for $165. On the bench in the foreground is new tool, which provides stops up to 30 inches, beside spindle stop tool it replaces, which gives stops only to one inch.

Efficiency Improved By Lathe Tool Idea

An idea for a more efficient lathe tool brought an Employe Suggestion Award of $165 to L. L. Schultz, a lathe machinist in Dept. 422, Electronics-San Diego.

The new tool is a lathe spindle stop, adaptable to any small toolroom size lathe, and which gives an overall estimated savings of 5 per cent in lathe setup and run time.

Formerly a stop was set into a collet in the lathe spindle which permitted stops only up to one inch, and also limited the length of the machined part held by the collet to one inch. To change the stop it was necessary to remove the collet.

The improved stop is inserted in the spindle of the lathe, and permits stops, and machined part lengths up to 30 inches, and there is no need to remove the collet to make a change.

"The tool is so simple that it is not patentable," said Jack Murray, general foreman of Dept. 422. "But we have put it to use on five lathes so far, and the same idea could be used on others."

Log Book Entries

Awards

CONVAIR

Employe Suggestion awards approved for the week ending June 21.

Dept. 146, W. M. Alexander, $71.10; 027, W. D. Arrasmith, $15.00; 400, J. H. Bell, $15.00; 584, M. H. Blatt, $15.00; 027, M. R. Brown, $238.20 (two awards); 146, G. M. Eckenboy, $71.10; 002, H. F. Faulwetter, $15.00; 250, B. L. Fowler, $15.00; 045, H. E. Gaugh Jr., $15.00; 250, C. R. Helmken, $15.00; 401, J. W. Hudson, $58.05; 979, H. S. Hufham, $15.30; 401, B. J. Jeffries, $58.05; 520, H. P. Kelly, $15.00; 015, C. E. Kiser, $121.50; 400, M. W. Lamb, $86.80 (two awards); 027, A. J. LeBeau, $73.10; 015, M. E. Long, $15.00; 143, P. H. Milne, $98.80; 015, C. E. Napier, $40.00; 780, C. M. Ortiz, $15.00; 101, C. R. Rodgers, $15.00; 250, G. W. Schwenke, $121.50; 027, T. L. Scott, $47.60; 758, O. A. Smith, $32.90; 761, L. Spurgeon, $34.20; 521, J. C. Wieth, $15.00; 744, R. A. Wyckoff, $608.80.

Employe Suggestion awards approved for the week ending June 14.

Dept. 508, J. F. Armstrong, $50.10; 015, P. R. Barley, $568.10; 979, K. N. Brackin, $18.90; 835, H. J. Brenner, $15.00; 015, S. Brown, $124.20; 144, J. F. Choitz, $34.70; 832, P. J. Cowan, $15.00; 045, H. E. Gaugh Jr., $15.00; 733, E. V. Gloudeman, $15.00; 031, D. G. Gordon, $32.60; 031, D. W. Ingram, $109.10; 143, H. A. Jackson, $101.10; 031, L. E. Kopp, $15.00; 031, A. A. Martin, $15.00; 149, C. A. McKinney, $15.00; 143, J. J. Murphy, 733, R. E. Reeves, $1,423.35 each (joint award); 059, G. J. Needles, $15.00; 027, S. Persley, $45.60; 002, G. D. Pfeifer, $15.00; 027, F. S. Rector, $49.30; 027, J. J. Rehm, $24.40; 015, A. Reiter, $47.10; 015, V. M. Reynante, $15.00; 400, M. J. Schipper, $34.90; 001, C. E. Schultz, $16.20; 195, R. L. Smith, $15.00; 015, S. Smolka, $25.00; 733, H. Staten Jr., $15.00; 027, F. H. Stine, $24.40; 519, G. W. Suydam, $117.70; 149, M. P. Taylor, $36.20; 001, C. R. Thompson, $15.00; 979, V. J. Wassmuth, $15.00; 733, F. J. Wisenberg, $15.00; 027, M. J. Zaragoza, $44.10.

Invention Disclosures

CONVAIR

BODLE — J., and M. OGMAN, Dept. 962-5. Valve Assembly, Hydraulic-Fuel Pressure Operated Fuel Transfer.

BROWN — N. J., Dept. 962-5. Fragmentable Missile as a Weapon for Delivery of Inflammable Substances.

HOLDENER — J. F., G. W. OLIVER and H. H. ROSENBAUM, Dept. 572-4. Lubricant and Antiseize Compound.

MOTES — J. J., Dept. 532-1. Vise-Belt Mounted.

ROLLA — C. P., Dept. 491-0. Hand Drill Feed Control.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Monday, July 15, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 14, auditorium, Tuesday, July 16, 8 a.m. for first shift; today July 3, 4:30 p.m. for second shift.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF STUDY—A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 7, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Rider-Driver

CONVAIR

RIDE WANTED — From Poway to Plant 19, 7:00 a.m., 3:30 p.m. shift. Call Gordon Olcott, ext. 2010 LF or (home) 748-4447.

RIDE WANTED — From 41st and Meade to Lindbergh Field. 7:00 to 3:30 shift. Call Esther Ryan, ext. 1544 LF.

RIDE WANTED — Escondido to Pomona Redeye test site at Sycamore Canyon, 7:15 a.m. to 3:45 p.m. shift. Nancy Robertson, home phone 746-5179.

RIDE WANTED — East Lake Dr., Fletcher Hills, to Kearny Mesa plant, 7 a.m. to 3:45 p.m. shift. Phone Jennie, ext. 3757 KM or (home) 469-0301.

RIDE WANTED — 28th and Palm to Kearny Mesa plant, 7:30 a.m. to 4:15 p.m. Phone Mary Barnes, KM ext. 3754 or (home) 283-3201.

RIDE WANTED—From Euclid Avenue and El Cjaon Boulevard to Air Force Plant 19, 7 a.m. to 3:30 p.m. shift. Phone O. H. Fritz, 282-7443.

RIDE WANTED—From Cowley Way, Clairemont, to Lindbergh Field. 7:00 a.m. to 3:30 shift. Call Jewel Adams, LF ext. 1749 or (home) 276-4310.

Retirements

CONVAIR

ANDERSON — Lilian V., Dept. 001-1. Seniority date Oct. 16, 1950, retired May 31.

GOMPERTZ — George C., Dept. 250-5. Seniority date Oct. 5, 1951, retired May 31.

GORMAN — Ralph L., Dept. 744-0. Seniority date May 24, 1956, retired June 21.

LUTZ — Albert W., Dept. 191-1. Seniority date Sept. 11, 1941, retired May 31.

MAINE — Claude L., Dept. 565-1. Seniority date June 5, 1952, retired May 28.

PUCHER — Steven M., Dept. 780-1. Seniority date July 2, 1956, retired April 27.

RIFE — Vernon W., Dept. 976-3. Seniority date Jan. 10, 1962, retired May 13.

SMITH — Raymond L., Dept. 955-0. Seniority date March 19, 1958, retired April 1.

Personals

CONVAIR

The family of W. L. Curtis gratefully acknowledges your kind expressions of sympathy and floral remembrances upon the death of our wife and mother.

W. L. Curtis & Children

VANDENBERG AFB

Thank you all for your wishes and floral offering at the recent loss of my husband, T. J. Mahoney.

Lucy Mahoney, Dept. 985-4.

Deaths

CONVAIR

LOVE—Donald H., Dept. 579-1, died June 24. Survivors include mother, brother and grandmother.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N. Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

New ASQC Officers Will Be Installed

New officers and committee chairmen for the San Diego section of the American Society for Quality Control will be installed at an annual dinner-dance at 7 p.m. July 20 in the Cafe del Rey Moro, Balboa Park.

L. I. Medlock, national ASQC vice president and director of reliability control for Convair, will conduct the installation. New officers are Paul Gelles, chairman; Sam Petcher, vice chairman; W. J. Wilkinson, secretary, and R. F. Martin, treasurer.

Retiring officers are John Mraz, chairman; L. I. Fredrickson, vice chairman; Paul Gelles, secretary; Charles Henry, treasurer.

Tickets can be obtained by phoning C. L. Marks, booster chairman, ext. 2370 KM.

IEEE INSTALLS TWO CONVAIR MEN

Two Convair division men have been installed as officers of the San Diego chapter of the Institute of Electrical and Electronics Engineers. Clark Hay of Dept. 551-0 is vice chairman and Glenn Boyce of Dept. 967-7 is secretary.

NAVY MIDSHIPMEN WILL TOUR PLANT

Eighty U.S. Navy midshipmen are scheduled to visit Convair division's Kearny Mesa plant July 16 while in San Diego for a U.S. Pacific Fleet Training Command-sponsored indoctrination program.

Stack-Mate Tests Insure Fit For Upcoming Atlas-Centaur 16

(Continued from Page 1)

where the aluminum transition adapter and fixed and split fairings were fabricated.

The transition adapter, enclosed within the fixed and split fairings for launch, makes the transition from the Centaur vehicle's 10-foot diameter to the spacecraft adapter's five-foot diameter.

The stack-mate tests were conducted at the Combined Systems Test Stand under the direction of Maynard Brown and Gerry Christ with Tom Sammon as conductor.

Ed Lindgren, AC-16 project engineer, said launch vehicles for the flight (Atlas SLV-3C No. 5002 and Centaur 13D) have been erected at Complex 36B at Cape Kennedy. A "tiger team" from KM will be at the Cape for equipment assessment and flight readiness review the latter part of August.

AC-16 will have a single-burn, direct-ascent flight to place the OAO-A2 in a 417-nautical-mile circular orbit around the earth. Daniel Sarokon will be launch conductor.

The OAO will carry Smithsonian and University of Wisconsin experiments to measure brightness of 50,000 stars in the ultraviolet spectrum, gather spectral energy distribution information on stars and nebulae in the ultraviolet range and measure time varying spectral intensity of particular stars.

Launch vehicle management is by NASA's Lewis Research Center and spacecraft management by NASA's Goddard Space Flight Center.

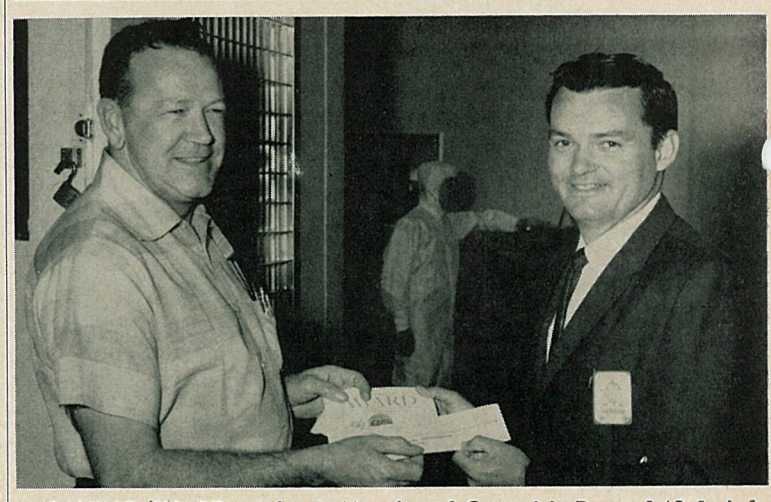
Atlas-Centaur also is scheduled to launch OAO spacecraft in 1969 and 1970.

Con-Trib Oks $4,525 Grants

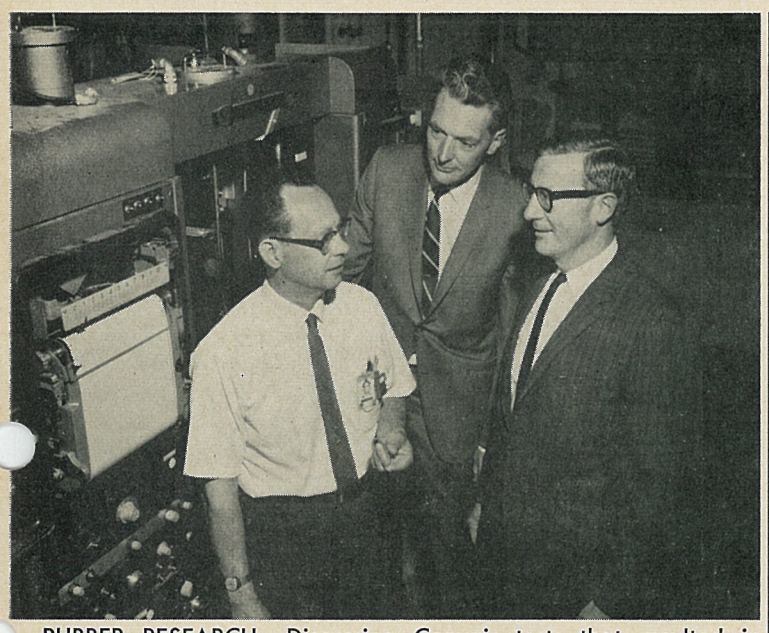
(Continued from Page 1)

which to return. The Fellowship Center is an Escondido alcoholic rehabilitation facility.

On recommendation of the Vandenberg Employes Advisory Committee, $525 was allocated to Lompoc District Hospital; $200 to the California Elks Major Project, Inc.; $100 to the Lompoc Valley Association for Retarded Children; $200 to the Boys Club of Lompoc; $200 to the Boys Club of Santa Maria.



SAVING SHARE—John J. Murphy of Convair's Dept. 143-1, left, receives $1,423 Employe Suggestion Award check and certificate from F. R. Lee Jr., reliability control manager for KM plant. A co-suggester now at Fort Worth division will receive identical award.



RUBBER RESEARCH—Discussing Convair tests that resulted in Air Force extending "lifetime" for rubber "O" rings, from left, are Dr. Paul Merz, J. S. Luster and S. B. Chamberlain. Machine at left was used in tensile strength tests.

Jungle and Desert Crash Studies Spark Rubber 'O' Ring Research

Condition of rubber "O" rings and seals on aircraft that crashed years ago in the North African desert, on the Greenland ice cap and in the humid jungles of Panama figured in a Convair division value engineering proposal, approved by the Air Force Space and Missile Systems Organization last month.

It will save a potential $220,000 on Atlas E and F-series missile modification programs alone.

The VE proposal, resulting from a Convair in-depth literature search and study and test program, resulted in the Air Force altering contract requirements to extend the "life" of "O" rings and similar elastomeric seals from 6½ to 12 years.

Similar contractual requirements changes may be instituted by other Department of Defense agencies with Convair receiving a percentage of total savings from this "collateral area."

Research leading to the VE proposal began last October after James S. Luster, senior design engineer in Dept. 954-0's value engineering section, challenged requirements for missile assembly components that had been sent to a material review crib because they contained contractually overage rubber goods.

A check with Stanley B. Chamberlain, chief of Atlas systems engineering, and Dr. Paul Merz, materials research staff scientist, indicated previous attempts to secure contractual changes for "O" ring lifetime had been unsuccessful due to insufficient data.

Chamberlain, Merz and Luster then mapped plans for the study, in which they were assisted by Ken Carnahan on materials research, Jay Brown on hydraulics, Lee Weikum on systems engineering, Bill O'Brien on reliability, Les Kerner on logistics and Dick Maving on estimating.

Andrew Kalitinsky, director of engineering for launch vehicle programs, and C. J. Dunn, manager of Atlas E/F programs, assisted.

Studies of aircraft that crashed during WWII and were discovered years later indicated that their "O" rings and other elastomeric seals were still in good working condition. However, Merz said it was essential to support such observations with quantitative engineering data to prove that modern "O" rings and seals are not adversely affected by long-term storage in excess of military (ANA-438) limitations.

Members of the Convair study "team" developed 30 pages of technical data and graphs for presentation to the Air Force.

They proved that "old wives' tales" about rubber aging are invalid; that today's synthetic rubbers are very stable and that engineering characteristics and sealibility of seals made from such materials are not affected by long-term storage — even in parts assemblies.

Four groups of "O" rings, with ages up to 15 years, were tested in Convair's materials research laboratories. The older rings were obtained from used airplane parts. Those over 12 years old were obtained from the San Diego Aerospace Museum.

Each ring was checked for visual appearance and tested for compression, set, hardness, tensile strength and ultimate elongation. "O" ring swelling and adhesion to sealing surfaces were proven to be independent of prolonged aging.

First savings of $119,000 for the Air Force will come under an existing contract for modification of Atlas E and F missiles and additional savings from follow-on contracts.

Be sure to use the ZIP code when addressing mail. It speeds up delivery!

Computerized Teletype to Start; Direct Dial Phoning to Follow

A private telephone network exclusively for General Dynamics, coupled with a new computerized relay system for teletype messages, will mark a new era in Corporate communications when they are introduced within the next two months.

The first cutover is scheduled for mid-July. On that date, Dynacom—the new system for sending written messages—begins operation.

Dynacom will incorporate the existing teletype services now in use. But teletypists will no longer have transmission difficulties because of busy circuits. A computer polling each message-sending station in the network will eliminate tie-ups.

Here's how it will work:

The teletypist in New York, for instance, will prepare a tape for each message. Polling each location in sequence, the computer will ask: "Have you any messages?" When the computer polls New York the taped message will be extracted by the computer, then stored. Continuing its cycle, the computer will soon poll the destination point of the message to see if it is free to receive. If the circuit is open, it will automatically transmit the message sent from New York.

Should the receiving party's line be busy, the computer will stack the message in its memory bank and poll the receiving party's wire again and again until it gets an all-clear signal. Then it will transmit the message.

Six weeks after the introduction of Dynacom, the other service will begin.

In late August—22 major locations of General Dynamics will simultaneously initiate Dynanet, the new corporatewide direct dialing system.

Dynanet will be composed of a series of private trunk lines connecting three major switching centers: San Diego in the west, Groton, Conn., in the east and Fort Worth in the southwest. The Fort Worth operation will also serve as a switching station for transcontinental Dynanet calls.

Each of 22 General Dynamics locations in this long distance private network may receive directly dialed calls from any of the other locations.

By dialing a simple code, a Dynanet user will automatically route his call through one of three basic avenues of transmission appropriate for his calling area.

The first of these avenues will directly connect him to a Dynanet terminal controlled by his own switching area.

Through the second, if he is a coastal user, he may dial the Fort Worth switching station interchange for all areas in the southwest.

And if he wishes a coast to coast connection, he will again dial Fort Worth, this time adding additional digits in the code to route his call to the opposite coast.

For the Fort Worth caller, dialing will be even easier. Since he is in the focal point of the network, he can immediately dial directly to whichever coastal station he wants without additional access codes.

In each of these procedures, access to the reserved Dynanet lines will be through number code alone, without the assistance of an operator.

It is estimated that the time required to place a call will be cut 50 per cent. A call from New York to San Diego will be placed in as little as 20 seconds.

Calls may be easily placed to any private number outside the network from within the Dynanet calling area. For instance, if a caller from New York wants to reach a San Diego business, he will dial the series of digits to get him into the San Diego switching center. Then he'll dial one more digit for access to the local calling area. Upon receipt of a dial tone, he will dial the local number he wants. It will be the same as if he were physically in San Diego; there will be no need for an area code to be dialed prior to the local number, and the call will be billed as a local rather than a long distance connection. This will complement the present Wide Area Telephone Service (WATS) which will continue to be used for areas not covered by the new network.

Corporatewide phone directories, to be distributed prior to cutover, will contain detailed instructions on how to use new service.

Name of 'TONE-DIAL' Registered by S-C

The U. S. Patent Office has registered "TONE-DIAL" as a trademark of Stromberg-Carlson Corp., a subsidiary of General Dynamics.

The trademark, "TONE-DIAL", will identify Stromberg-Carlson's pushbutton telephone sets.

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Dynacom, Dynanet Result Of Several Years Study

The new Dynacom and Dynanet services to be introduced reflect the first in a series of long range answers to the problems created by continued growth in Corporatewide communications.

Studies made by General Dynamics communications experts reveal that the growth of company communications usage is approximately 20 per cent annually.

Implementation of the Dynacom system is a joint effort on the part of Corporate Headquarters and the Convair division. The final decision on Dynacom was made after a 12-month feasibility study.

Dynanet was preceded by a two year study carried out by all divisions in the Corporation. Sixteen phone companies across the nation had to pool their resources to meet Dynanet's requirements.

General Dynamics' bill for all communications last year was $10.2 million, a $700,000 increase over 1966 and the highest ever.

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Substantial Cost Saving Seen For New Services

Substantial cost reductions through use of the new Dynacom and Dynanet telecommunication services have been predicted by Leroy Fitzgerald, Corporate manager of wire communications.

Fitzgerald said combined savings from both services would be more than $800,000 annually.

Dynacom's average monthly cost will be $49,000, as compared to the $65,000 a month previously spent on written message communiques. Over a year's time, the total savings would amount to $192,000.

Phone bills for the current year have been averaging $200,000 per month. With Dynanet, the cost will be $149,000, a 25 per cent monthly saving equal to $612,000 over a one year period.

He's Still Growing

Four Feet, 11 Inch, 80 Pounder Just the Man For Tight Spots

If you are 23 years old, only 4 feet, 11 inches tall and weigh 80 pounds — you might have a problem.

Not so for Van H. Lebus, Dept. 77 at Fort Worth division.

The young man says there are certain advantages in being his size.

He buys his clothes in the boys department — size 12. The price is more reasonable.

Or, for instance, he can order a children's plate in a restaurant without any trouble. Van says he has been tempted to order a beer to go with it just to see the reacion of the waitress!

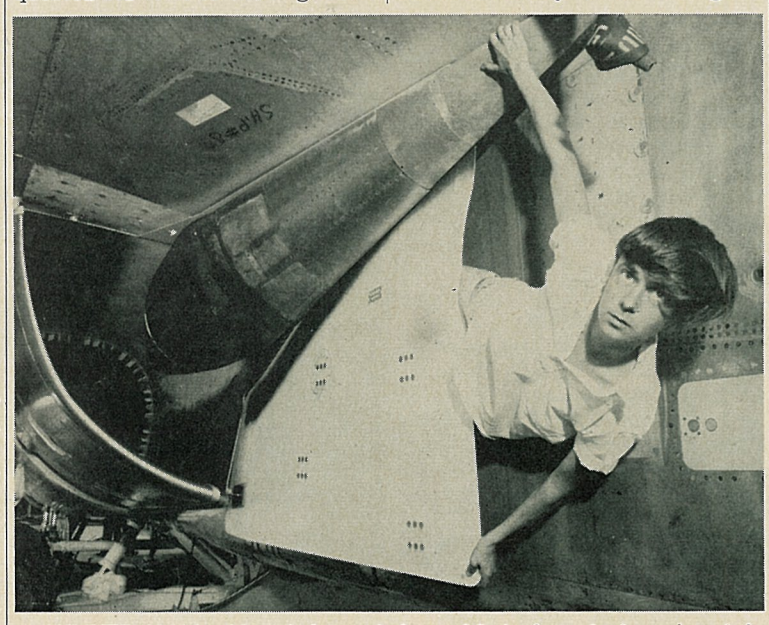
The boyish-looking man has been at Fort Worth division since September. His supervisor, K. W. Arledge, says he has been requested for loan to the flight line as well. Van is able to get into areas where space is at a minimum.

His identification card was first misprinted and had him listed as 5 feet 10 inches, weighing 80 pounds. He changed that quickly.

Van's mother is 5 feet, 5 inches and his father is 6 feet, 1 inch. A brother is 6 feet, 1 inch also. His girl friend is 5 feet, 3 inches.

He says his growth has been steady but very slow. Still growing, he has yet to reach a spurt of growth most young people receive in their teens.

Van graduated from Cooper High School in Abilene and attended McMurray College, where he was a student assistant in the art department. He also attended Howard County Junior College.



MINUTE MAN—Van Lebus, 4 feet, 11 inches, is just the right size to fit into a seven-inch space to reach a de-icing tube between F-111 fuselage and splitter vein.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

C. E. PUCKETT (1960) from Pomona division to Corporate Headquarters as director of industrial security; **GEORGE D. HIGGINS JR.** (1942) from Corporate Headquarters to Fort Worth division; **DONALD P. BROCKIE** (1956) from Fort Worth to Quincy, reporting to J. L. Budros; **WALT WINFIELD** from Electronics, Rochester to Material Service as director, salaried personnel relations; **RICHARD B. CRAIG** (1948) from Stromberg-Carlson to manager of employe relations, Fort Worth; **WILLIAM T. MANSFIELD** (1963) from Electric Boat to Fort Worth; **JOSEPH P. SPIEKER JR.** (1951) from Convair to Pomona as outside inspection rep.; **JACK A. RIEGERT** (1965) from Pomona to reliability specialist, Fort Worth; **ALLAN R. BAKER** (1961) from Convair to contract administration, Fort Worth; **KENNETH W. WULFEMEYER** (1956) from Convair to employe services, Pomona; **LAWRENCE M. SCHAFER** (1966) from Convair to Fort Worth in advanced design; **GORDON A. BLADE JR.** (1956) from Fort Worth to Electronics-SD as senior cost estimator; **MICHAEL E. KIEWEL** (1959) from Convair to Fort Worth; **RAY KERR** from Electric Boat to wage administrator, Pomona.



NEW SKILLS—Seaman J. D. Gilmore demonstrates new skills he has learned in training program to J. A. Croft, Convair chief of educational services, Navy Lt. A. H. Benge, Project Transition site officer at San Diego Naval Station, and Jack Kennedy, instructor.

Transition to Civilian Life Aided By Servicemen Classes

A training program for military servicemen who are soon to return to civilian life is now in progress at AF Plant 19.

The program, called "Project Transition," has been set up by the Department of Defense to train servicemen in basic aircraft assembly skills, and is being conducted by educational services under J. A. Croft.

The first class in the program, which began in Bldg. 3 at Plant 19 last month, is training a class of 14, including 10 Navy enlisted men, one Navy chief and three Marines. They are learning basic sheetmetal work including riveting, drilling and forming, as well as receiving instruction in basic blueprint reading and some shop math. The class, under the guidance of instructors Jack Kennedy and Al Stroing, will run for three weeks.

"We are pleased that Convair has been given the opportunity to give this training," Croft said. "Project Transition provides a challenge for us as well as the students involved."

Navy Lt. A. H. Benge, project transition site officer at the Naval Station in San Diego, recently visited the class and expressed his satisfaction with their progress.

"I hope these classes will continue in the future," he said. "The skills these men learn will certainly benefit them in their return to civilian life."



APPRENTICES GRADUATE—J. M. Adamson, LF manager of operations, congratulates graduate apprentices Robert B. Howe (left) and Robert J. Connell Jr., as he presents them with Journeyman Certificates. Howe started at Convair as mail clerk in 1961 and took a 25 per cent cut in pay to enter Apprenticeship Program in 1964. He graduates as a machining center machinist-numerical control, and will work in Dept. 731 at KM. Connell entered program in 1964. He graduates as a tool and die maker "A," and will work in Dept. 452 at KM. Connell's father, Bob Connell Sr., long-time Convair man, is a tool project engineer in Dept. 400-2.

Without Notice, F-106s Scramble, Down Target Drones With Missiles

Two 95th Fighter Intercepter Squadron pilots recently completed a successful "no notice" weapons system verification of their F-106 aircraft, according to F. H. Weaver, Convair field service representative assigned to Dover Air Force Base in Maine.

It was the first time in Air Defense Command history that such a check was directed without advance notice.

Weaver said that two pilots were ordered to scramble their aircraft without any previous preparation or pre-firing checks, and were directed to fly to Tyndall AFB in Florida. There they were refueled, loaded and briefed, after which they tested their weapons systems on remotely controlled flying "drones" by firing two missiles each.

Both pilots destroyed their targets, and officials at the USAF Weapons School at Tyndall praised the performance.

The entire evaluation was completed in nine and one-half hours, including the two flights between Dover and Tyndall.

MEDLOCK SPEAKS FOR I-E COUNCIL

L. I. Medlock, director of reliability control for Convair, and national vice president of the American Society for Quality Control, discussed "Quality in the Community" June 12 at a meeting of the San Diego Industry Education Council.

Savings Bond Quiz:

QUESTION: Can I name my 10-year-old son as a co-owner on Savings Bonds and gain a tax advantage for his education?

ANSWER: No, the plan requires purchasing the bonds in your son's name, either alone or with either parent as beneficiary. Income tax liability usually can be shifted to the child by filing a Federal return in his name, at the end of the first year of bond purchases, listing the increase in bond value as income to him. That initial return establishes the intent and no further returns need be filed, as long as the child's total annual income is less than $600. No tax will be due, if the bond interest, plus other income, comes to less than $900 ($600 personal exemption, plus $300 standard deduction). Be sure to keep a copy of the initial return, establishing the intent. It may be needed in later years as possible proof that the interest had been reported.

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QUESTION: My wife and I hold a number of Series E Savings Bonds. We will have to redeem some of them this year to meet anticipated expenses. That's why we bought them and held them. What's the best time of the year to cash our Bonds?

ANSWER: Normally, on the anniversary date of your Bonds, or at six-month periods thereafter. E Bonds gain in value every six months.

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QUESTION: They say that Savings Bonds are indestructible; that any lost, stolen or destroyed will be replaced. Does it actually work out that way?

ANSWER: Since the beginning of the Savings Bonds program in May, 1941, more than 1.8 million individual Bonds have been reissued after records had been checked and ownership facts established.

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QUESTION: What about accrued interest on Series E Bonds that are exchanged for H Bonds? Does tax have to be paid immediately?

ANSWER: No, the Federal income tax may continue to be deferred until the H Bonds are cashed or reach final maturity. That enables the bond owner to continue to earn interest on the full amount of interest that has already accumulated.

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QUESTION: Back in the early 1940's, my aunt bought a number of Series E Bonds in various War Bond drives. We came across them the other day while helping her clean out some papers. Are they any good?

ANSWER: Just as good as the day she bought them; even more so, because interest has been accruing on them since that day and is continuing to accrue. No E Bond ever sold has stopped earning interest.

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QUESTION: Since I have no relatives, how do I go about naming my church as the beneficiary or co-owner of the Savings Bonds I own?

ANSWER: Unfortunately, you can't. Regulations provide that bonds issued in either case must name natural persons only. But you could write a will leaving the bonds to your church. Bonds may, of course, be purchased by you in the name of the church as sole owner.

JAPANESE NAVAL ENSIGNS TO TOUR

Fifty newly commissioned ensigns from a Japan Maritime Defense Force training squadron will visit Convair's Kearny Mesa plant Friday (July 5) for a briefing and tour. They are serving aboard Japanese destroyers visiting San Diego.

Is it news? Pick up a phone and call GD/NEWS



"GRADUATES"—Four Air Force officers completing 10-month Air Force Institute of Technology "Education With Industry" program receive certificates from Jack L. Bowers, right, Convair division general manager. They are, from left, Capt. Albert H. Smith Jr., Capt. Robert H. Berry, Maj. Dale A. Johnston and Maj. Alton J. Hendrick.

Air Force Officers Complete 10-Month Duty Tour at Convair

Four U. S. Air Force career officers last week completed a 10-month "Education With Industry" training program at Convair division. Certificates from the Air Force Institute of Technology, which sponsors the program, were presented by Jack L. Bowers, Convair division general manager.

The four officers will be reporting to new duty stations following brief military leaves.

Maj. Alton J. "Jack" Hendrick will have a procurement management assignment with the Air Force Space and Missile Systems Organization's Minuteman program office at Norton AFB, Calif.; Maj. Dale A. Johnston will return to flight duty as a navigator at Udorn AFB, Thailand; Capt. Albert H. Smith will have a procurement management assignment in Saigon, Viet Nam; and Capt. Robert H. Berry will have procurement management duties at Hill AFB, Ogden, Utah.

After reporting to Convair in September, the group was given six weeks of general orientation on division organization, management, and products — followed by visits to all major departments for briefings on departmental operations by supervisory personnel.

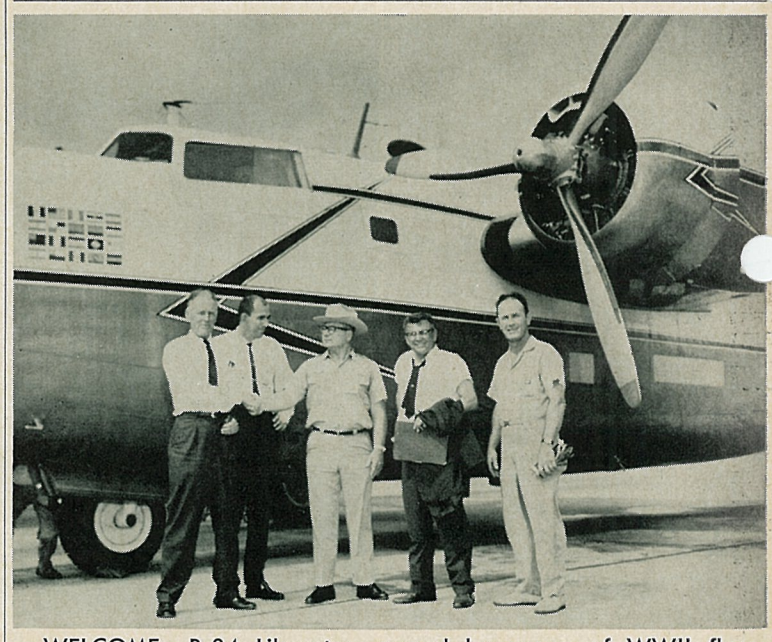
Since January, each of the four has had five or six individual work assignments in areas related to his background and primary interests.

The group also visited General Dynamics Corporate offices in New York for a series of briefings and visited Cape Kennedy, Vandenberg AFB, Fort Worth division, Electronics-SD, and other aerospace and industrial firms in Southern California and Texas.

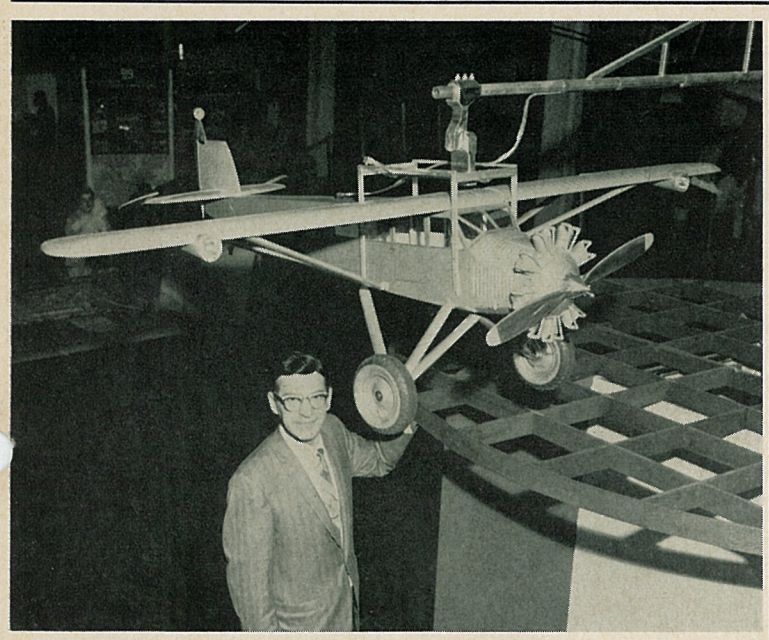
R. C. McKee of Convair's industrial relations department was program coordinator for the division.



BORROWED F-102—Col. D. A. Kuhlmann, SAAMA systems support manager on F-102/106, who has just delivered an F-102 to LF for use by Convair in a test program, is greeted by S. A. Brandt, F-102/106 program manager. Also on hand was S. B. Stevens (left), F-102 project engineer, and B. F. Ferguson, F-102/106 deputy program manager. F-102 is on loan to be instrumented, and then flown by Convair pilots in 36-week study. Flights are scheduled to start Aug. 1.



WELCOME—B-24 Liberator, owned by group of WWII flyers dedicated to restoring old war planes, visited Fort Worth division recently as attraction for Open House.



MEMORY MODEL—Felix Roy, Convair Dept. 452-0 machinist, checks 1928 Fairchild model plane that he built from memory as youth. Powered by hand-made electric motor, model "flies" around pylon in San Diego Aerospace Museum.

Built in Youth

Convair Machinist's Model Monoplane 'Flies' in Museum

A model of a 1928 Fairchild FC2W aircraft, which a Convair division machinist fashioned during a five-year period as a youth, has been erected for "continuous flight" at the San Diego Aerospace Museum in Balboa Park.

Felix Roy, Dept. 452-0, the machinist, saw one of the Fairchild planes (similar to Lindbergh's "Spirit of St. Louis") in 1928 during a visit to the airport in his home town of Montreal, Canada.

He built the model from memory in spare time, beginning the project when he was 14. It is made of wood and aluminum with canvas-covered wings. Wingspan is nine feet. An electric motor, inside the replica of a nine-cylinder gasoline engine, turns the plane's propeller at 1,700 RPM for continuous circling of a pylon in the museum. Ailerons and rudder, linked to the power plant, operate during "flight" to give a realistic effect.

Counter-balancing the plane's weight at the opposite end of the pylon arm is an Atlas missile model filled with 130 pounds of lead.

Col. Owen Clarke, USAF (ret.), museum director, said the model plane is "valued highly" as an educational exhibit and is so perfectly balanced on the pylon (designed by Roy) that one minute of powered "flight" causes it to coast another eight minutes.

"Building the model from memory was an amazing feat," Colonel Clarke said.

Roy worked as a machinist for the Canadian Vickers Aircraft Co. and operated his own electrical shop in Montreal before coming to the U. S. in 1955. He joined Convair in 1966.

Feminine Shooters Join in Competition

Distaff shooters shared the spotlight in last month's CRA Pistol Club shoot. New members firing in competition for the first time were Laura McGraw and daughter Davla, John and Pauline Cole and Robert Myers. Mrs. McGraw fired a respectable 222 to lead the group.

In .22 police course masters competition Roland Schneider edged Warren Walker 288 to 287. Dick Sutton was first in expert class and in Short National .45 action Jim Halfacre won over Ernie Kampmann.

Second quarter CRA Pistol Team, based on Short National aggregate scores, will be made up of Schneider, Kampmann, Walker and Halfacre who will represent the club in outside competition.

Adventurers Plan Sierra Juarez Trip

A trip to the Sierra Juarez mountain area of Baja, California is on tap for CRA Adventurers the weekend of July 20-21.

After setting up a car camp at Laguna Hanson Saturday afternoon, members will drive a few miles to the picturesque town of Aserradero where a working sawmill is located.

Sunday morning hiking and driving through the pine forests is planned.

Call John Anderson at LF ext. 1567 for information.

Hi-Fi Club Slates Technical Program

CRA Hi-Fi Club will present a technical program of interest to color TV set owners in the club's workshop following the regular business meeting at 7:30 p.m. Tuesday, July 9, in Room A at the CRA Clubhouse.

W. A. Roden, workshop committee chairman, will demonstrate the club's new color bar and dot generator in servicing of a TV receiver for color convergence and purity.

Bleachers Packed For Ride Club Show

A combination of record entries, sunny weather, and bleachers full of spectators made CRA Riding Club's June show a tremendous success, according to Gerry Washburn, show manager.

Point leader in morning gymkhana competition, in which 185 were entered, went to Mike DeLeonardo. Afternoon equitation winner was Gayla Washburn.

No show is planned this month but club activities will continue with a weekend camping trip to Pine Crest July 26, 27 and 28. Call Steve Berry at 277-7191 for reservations by July 15.

Cook Out to Precede Garden Club Show

Tonight's scheduled CRA Garden Club meeting has been reset for Saturday, July 13 when members will hold a Specimen Bloom Show and barbecue at Missile Park, 4-9 p.m.

Those wishing to barbecue may bring their own steaks and eating utensils. Salad, beverage and dessert will be furnished by CRA. Reservations may be made by calling Carolyn Buman, 277-4872 or Audrey Sletnar, 453-4083.

July 15 Is Deadline For Entering State

Employes are reminded that July 15 is deadline for filing applications for admission or readmission to San Diego State College for the fall semester.

Transcripts, test scores and other required documents may be forwarded separately after the application deadline. Phone educational services, ext. 1931 KM, for detailed information.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is July 9. Call ext. 1071 LF or 3322 KM. All meetings are held in CRA Clubhouse unless otherwise noted.)

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ADVENTURERS — Meeting July 17, 7:30 p.m. Weekend trip to Baja, California, July 20-21.

BADMINTON — Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BICYCLE CLUB — Fifty-mile beach ride, July 13. Leave CRA Clubhouse, 7:30 a.m.

BONAIR FLYERS — Meet first Tuesday each month, 7:30 p.m.

BRIDGE — Play each Friday, 7:30 p.m.

CAMERA CLUB — Meet third Sunday each month, Photo Arts Bldg., Balboa Park.

CERAMICS — Meet each Tuesday and Thursday, 7-10 p.m.

CHESS — Tournament, July 10, 7 p.m.

CHORUS — Rehearsals 7:30 p.m., Mondays.

COINEERS — Meet third Wednesday each month, 7:30 p.m., Convair cafeteria, Lindbergh Field.

DELTA DIVERS — Meeting July 10, 7:30 p.m.

FENCING — Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FISHING — Meeting Tuesday, July 16, Gillespie Field Clubhouse. Potluck 6:30 p.m.; Meeting 7:30.

GARDEN CLUB — No meeting tonight. Specimen Bloom Show, July 13, Missile Park, 4-9 p.m. Summer Show, July 28, Floral Association Bldg., Balboa Park.

GOLF — Tournament July 20-21 at Rancho Bernardo.

HEALTH CLUB — Open 9:30 a.m. to 10 p.m., Monday through Friday; 10 a.m. to 5 p.m. Saturday.

HI/FI MUSIC — Meeting July 9, 7:30 p.m.

ICE SKATING — GD family skate night Thursday, 6:15-7:45 p.m., Mission Valley Ice Arena.

JUNIOR SCIENCE — Workshop third Friday each month, 7:30 p.m.

MINIATURE RAILROAD — Operating sessions Saturday, Sunday and holidays, CRA Missile Park.

MODEL HO RAILROAD — Work sessions 9 a.m. Saturday; 7:15 p.m. Tuesday, CRA Missile Park.

PISTOL CLUB — Shoot July 14, 9:15 a.m., S. D. Police Pistol Range.

RADIO CLUB — Next meeting July 18, 7:30 p.m.

RIDING CLUB — Meeting July 10, 7:30 p.m. Camping trip to Pine Crest July 26, 27 and 28.

ROCKHOUNDS — Meeting July 10, 7:30 p.m.

SCULPTURE — Workshop sessions each Monday, 7-10 p.m.

SAILING CLUB — Meet fourth Wednesday each month, 7:30 p.m.

SPORTS CAR CLUB — Meet second Wednesday each month, 7:30 p.m., Convair executive dining room, Lindbergh Field.

TOASTMASTERS — Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m.

TROPICAL FISH — Meeting and workshop July 10, 7:30 p.m.

WOMEN'S GOLF — Third Annual Ernie Paul Memorial Tourney, July 13, Mission Bay Course.

Bicycle Club Slates Awards

CRA Bicycle Club awards for the next club year have been announced by Dave Lukens, awards chairman.

Jerseys will be presented to members completing 200 miles on scheduled club rides, cycling caps for 400 miles, nylon club jackets for 700 miles and mileage patches and trophies for 1,000 miles.

Recognition awards also will be given at the end of the year for riders compiling highest total mileage and most miles in 25 and 50-mile-ride categories.

A 50-mile "tour of the beaches" is scheduled July 13 with riders to leave the CRA Clubhouse parking lot at 7:30 a.m.

Phone Cy Campbell, ride leader, ext. 2056 KM or (home) 466-1881, for additional information.

Eighteen members made the June 22 ride from Parkway Bowl in El Cajon to El Monte Park.

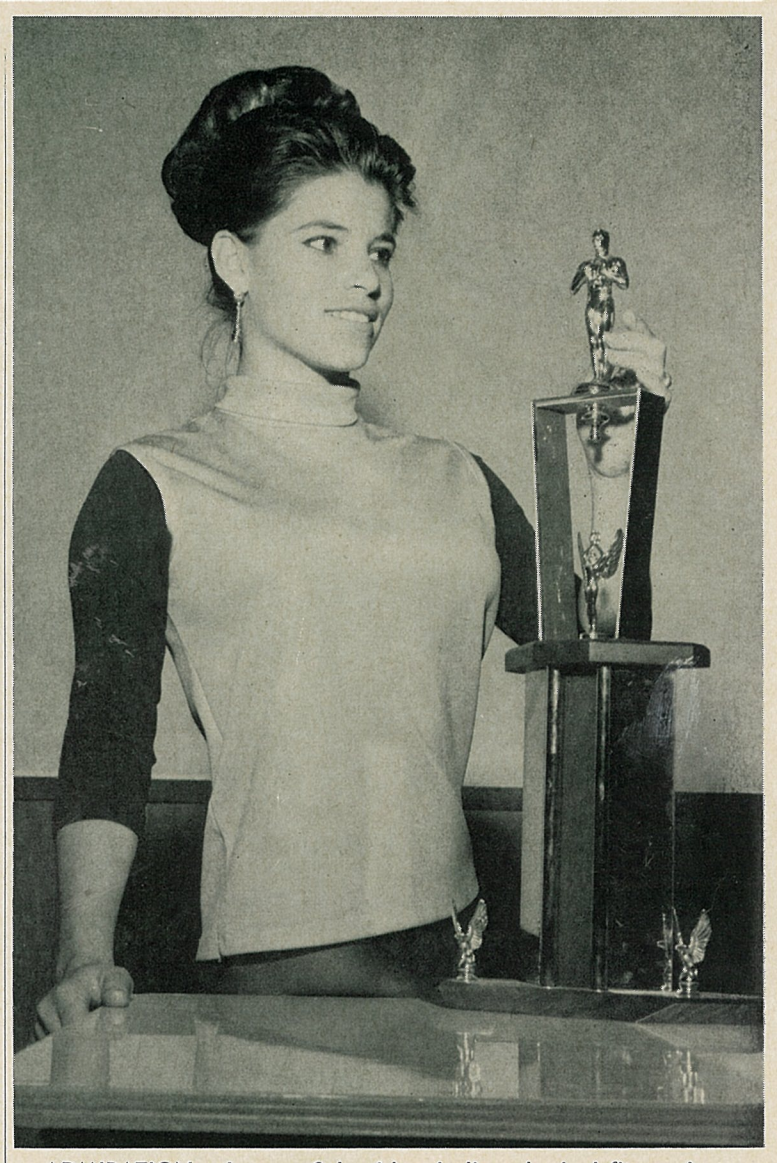
Color Guard to Ride In Coronado Parade

A color guard made up of Judy and David Watson, Clyde Donahoo, and Barbara Doom will represent CRA Riding Club in tomorrow's 21st annual Coronado 4th of July parade featuring some of the county's top equestrian units.

A movie, "Story of the Appaloosa" will be shown at the next regular meeting July 10, 7:30 p.m. in the CRA Clubhouse.

CRA CLUB TO HEAR ABOUT SPIDERS

Dr. Benjamin J. Kaston, department of zoology, San Diego State, will talk and show slides on spiders at CRA Adventurers Club meeting July 17, 7:30 p.m. in the Clubhouse auditorium.



ADMIRATION—Joanne Schneider, ladies physical fitness instructor, admires second place trophy won by five-man CRA Health Club team in recent San Diego bench and curl finals at San Diego State College. Team members and weight totals for two lifts were Denny Shea, 325; Jim Smith, 315; Pete Zagami, 435; Tom Romero, 570, and Bruce MacDonald, 455.

Gil Preston's Net 61 Tops Field Of Golfers at Carlton Oaks

This month's CRA golf tournament has been scheduled July 20-21 at Rancho Bernardo. Starting times can be reserved beginning July 10 by calling ext. 511 LF.

About 200 GD golfers competed in the June 15-16 tourney at Carlton Oaks.

Gil Preston scored a low net 61 to take top honors. Others receiving merchandise gift certificates as flight winners were:

First flight — Al Bauer, low gross, 70; Ray Minutello, low net, 68.

Second flight — Bill Olsson, low gross, 79; Pedro Juarez and M. J. Aleshire, tie for low net, 67.

Third flight — Scotty Kincaid, low gross, 84; Bill Reader, low net, 65.

Fourth flight — Bill Wrieden, low gross, 88; Max Walden, low net, 65.

Fifth flight — Roger Midura, low gross, 86; Lou Scott, low net, 66.

Packages of golf balls were awarded to Gerald Paxson and John McIntosh for longest drives on the first hole Saturday and Sunday, respectively, and James Johnston and Lee Kite for closest-to-pin drives on the eighth hole for the two days.

Tennis Winners and Runners-up To Attend Trophy Ceremonies

Twenty-two winners and finalists from CRA Tennis Club's spring tournament are scheduled to receive trophies July 10.

More than 60 employes and family members competed in the tournament, which began in May at Mesa College and Morley Field courts.

Trophy winners, listed by event, are:

Advanced singles — Cecil Norwood, winner; Robert Mostowy, finalist.

Advanced doubles — Frank Jarlett and Dennis Sealey, winners; Don McClarren and Norwood, finalists.

Intermediate singles — Mike Fager, winner; Robert Neynaber, finalist; McClarren, consolation winner.

Intermediate doubles — Hideo Yoshihara and Dan Hamlin, winners; Dave Gorham and Jan Andrews, finalists.

Novice singles — Tom Herold, winner; Robert Hintz, finalist.

Novice doubles — Herold and and Hintz, winners.

Women's singles — Amy Jarlett, winner; Ann Mawhinney, finalist.

Mixed doubles — Sharron Williams and Ed Russ, winners; Eileen and Sam Kaye, finalists.

Translaters Needed By Convair Library

Convair division's engineering library is establishing a "capabilities register" on employes proficient in different languages who may be called on to scan and translate technical articles from foreign publications as the need arises.

"We are particularly interested in employes who can translate technical information from Russian, German, French, Italian, Japanese and Chinese," Keith Blair, library supervisor, said. Limited funds are available to compensate for translations.

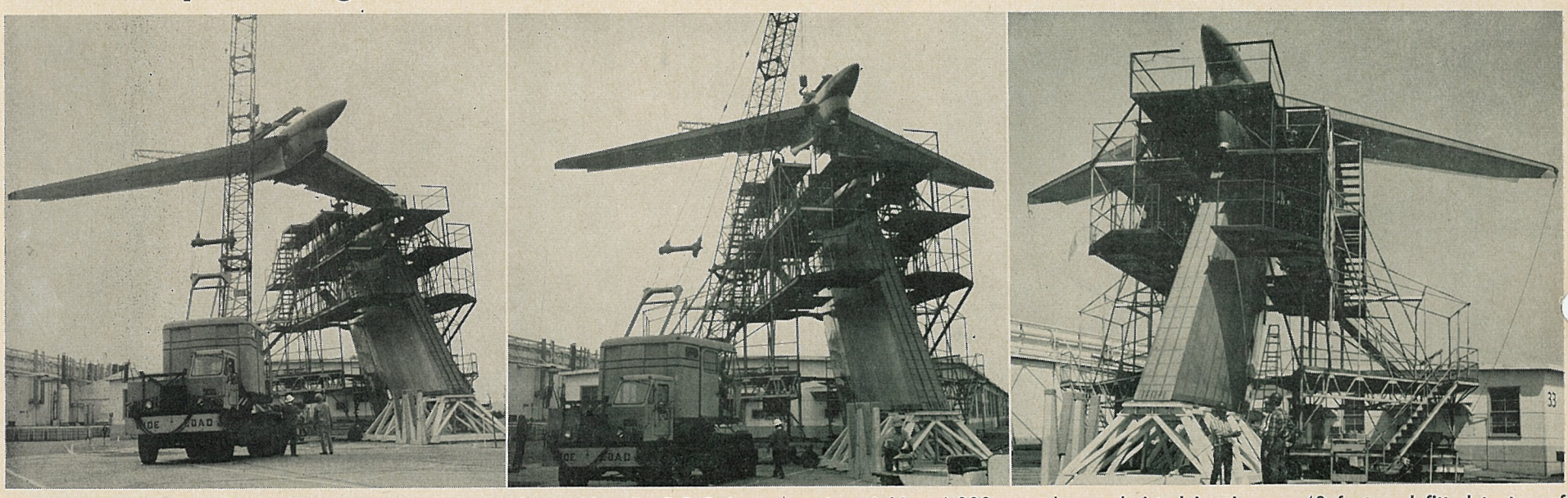
Interested employes are asked to phone Blair, ext. 1073 KM, or send information through interoffice mail, MZ 524-10.

Chess Tournament Starts Wednesday

All Convair, Electronics and Datagraphics employes and dependents are invited to participate in a CRA Chess Club tournament, Wednesday, July 10 in the Clubhouse.

Play gets under way at 7 p.m. with trophies going to the winner and runners-up.

C-5 Empennage Vertical and Horizontal Units Mated in Fit Test



PASSES FIT TEST—Fifth production empennage unit for Lockheed's C-5 Galaxy transport successfully passed fit test last month at Convair. Horizontal stabilizer unit weighing 6,000 pounds was hoisted in air over 40 feet and fitted to top of vertical stabilizer. Checks were then made for fit, alignment and symmetry.

New System Used For Testing Electronic Circuit Devices

Convair division electronics engineers have developed a new system for automatic functional testing of tiny electronic integrated circuit devices.

The Functional Automatically Sequenced Tester (FAST) uses punched paper tape for automatic running of test sequences. During the sequence, the unit stops automatically and a red "no go" light comes on if it senses that a parameter on the circuit being tested falls outside a predetermined band.

D. W. Grisel, assistant chief engineer-electronics, said the unit was designed because of the need for a piece of equipment that could be programmed easily for testing of a wide variety of integrated circuit "packages." Cost of complex commercially available systems for such tests was found prohibitive.

Ed Maurer, senior electronics engineer in the Dept. 551-4 microelectronics lab in Bldg. 33 at KM, designed and supervised fabrication of the test system.

Russell Thompson, Dept. 551-2 electronics engineer, assisted with final development, handled test programming and prepared an operations manual.

Integrated circuits to be tested are inserted in a holding device that plugs into the front panel on the unit.

Len Marks, supervisor of the electronics packaging group (Dept. 551-4), said up to 60 different parameters may be checked on each of the integrated circuit "packages."

Paper tapes that control the automatic test sequence are punched on a smaller separate machine, permitting punching of a new tape while the test set is in use. Each tape punch position is coded for ease in tracing of circuit failure points.

Lights on a front panel of the FAST unit provide visual indication of the interconnections and forcing functions for each test condition.

Grisel said engineers from other General Dynamics divisions have been impressed with the flexibility of the new FAST tester and may be interested in procuring or building similar equipment.

The unit ties in with other equipment in the Convair microelectronics lab to form a total test "system" for microcircuits.

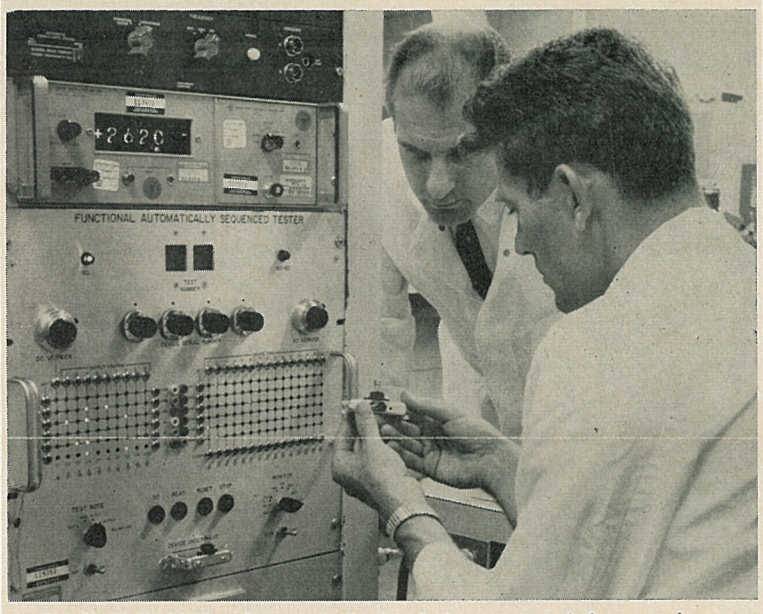
An IBM card punch machine, which plugs directly into the FAST, is used to automatically record data on each circuit tested for later computer evaluation. The date, serial number and lot number of the circuit, test number and complete test data is printed and punched on the card.

Other devices in the "system" are two circuit probe machines which, when attached to the FAST, check entire integrated circuit wafers and thin/thick film passive circuit plates prior to their utilization in individual "packages."

Grisel said the FAST unit has been testing integrated circuits for use in Centaur space vehicles and F-111 ground support equipment. It is expected to be used in the future for testing of a variety of similar circuits for application in other company products.

Paul Brandt Heads Chapter of AFCEA

Paul E. Brandt, manager of the General Dynamics Red Bank Corporate Field Office in Red Bank, N. J. has been elected president of Fort Monmouth Chapter, Armed Forces Communications and Electronics Association. He succeeds outgoing president, Col. John G. Condon.



CIRCUIT TESTER—Integrated circuit is prepared for test by new Convair-developed "functional automatically sequenced tester" (FAST) by R. J. Thompson of Dept. 551-2, right, as Ed Maurer, developer of device, looks on. Punched paper tape controls automatic test sequence.

Social Security Student Aid Tops Combined Scholarships

Social Security benefits being paid to young people 18 to 22 who are still in school amount to more than the scholarships at all colleges and universities in the United States, Secretary of Health, Education, and Welfare Wilbur J. Cohen reports.

"In the 1968-69 school year, the Social Security program will pay about $479 million to approximately 466,000 students entitled to payments on the earnings record of a disabled, retired, or deceased parent," Secretary Cohen said. This will be an average of more than $1,000 to each eligible student.

The school year that begins next fall will mark the fourth year of payments under a 1965 change in the law providing for the continued payment of Social Security child's benefits past the age of 18. Until that change, a young beneficiary's payments stopped when he became 18 unless he was totally disabled.

"There is nothing in the law that prevents the student from receiving his Social Security benefits while he is still receiving assistance from a scholarship fund," Secretary Cohen noted. "Benefits may be paid during vacation periods. If a student works during the summer months or part-time during the school year, and earns $1,680 or less for the year, he can still collect all of his Social Security benefits. If his earnings go above $1,680, he gives up some or all of his benefits, depending upon the amount of his total earnings and how steadily he works."

A 1967 change in the dependency requirements for the children of women workers made about 175,000 young persons eligible for payments. A large number of them are in the 18 to 22 group and are attending school. They must apply for benefits before their payments can start.

Young people in the 18 to 22 age group whose mothers died after working under Social Security, or whose mothers are retired or disabled, should get in touch with the nearest Social Security office if they are not already receiving Social Security student's benefits.

'Author' Grover Tate Earns Story Awards

Grover C. Tate Jr., project flight engineer at Edwards AFB, won four honorable-mention trophies for his stories in the 1968 Military Airlift Command (MAC) Flying Safety story contest.

Tate, a command navigator in the Air Force Reserve, is a member of the 728th Military Airlift Squadron.

The contest is sponsored by the command's monthly Flying Safety magazine. Twenty-five entries were judged.

Resources Group's Extensive Activity Told by Roger Lewis

(Following was excerpted from a statement made by Roger Lewis, president of General Dynamics, at the Corporation's annual meeting of share owners in Chicago. Although the statement outlined virtually all Corporate endeavors, his remarks concerning the Resources Group should be of interest to GD/NEWS readers, as an important part of GD's business.)

"Chicago is very important to this company — in the products of the operations that are based here and in their contributions to the general profitabiliy of the Corporation . . .

"The Chicago-based operations include Material Service division, Marblehead Lime, Freeman Coal Mining Corp., The United Electric Coal Companies, Liquid Carbonic Corp., and some smaller affiliated operations that are primarily distributorships . . .

"The Material Service division continues as the largest supplier of aggregates, Redi-Mix concrete and other materials used in building and development projects in the Chicago area. The division's special lightweight aggregate, Materialite, helps make possible unusual applications of concrete, particularly for such unique high-rise structures as Marina City.

"From our five operating stone quarries, seven sand and gravel pits and four plants for production of concrete pipe, pre-stressed concrete and lightweight aggregate, we move millions of tons of material every year with our own barge fleet throughout the inland waterways to points of use or distribution. Redi-Mix concrete is trucked to job sites from 13 strategic locations.

"The resources and facilities of the division are important to the construction and road building of this area. Efficiency is being increased through relocation and combination of some operations, and constant evaluation of personnel, equipment, plant and markets. The general market for our products has improved in recent months, and construction projections are good.

"Marblehead Lime is the largest of the nation's lime companies and is growing. We have under construction two new kilns for the production of high-calcium lime. These are in the Chicago and Detroit areas. Profitability in the latest quarter was well up over a year ago.

"One area of the production mix, dead-burned dolomite, is declining. Dolomitic limes are used primarily in open-hearth steel operations. But the steel industry is rapidly converting from open-hearth operation to basic-oxygen furnaces, which require high-calcium limes for steelmaking. Water systems are using more lime for purification, and agriculture is increasing its use of lime to improve yields. Overall growing demand for high-purity, high-calcium lime is more than offsetting the reduction in other grades. We look for a steady increase in this business.

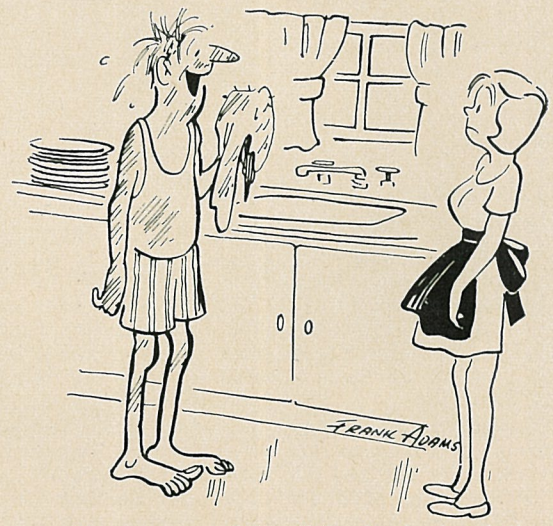
"General Dynamics is also a large coal miner, fifth largest among commercial producers. Our two coal subsidiaries, Freeman and United Electric, last year had a combined volume of nearly 15 million tons. United Electric operates four deep-shaft mines . . .

"Freeman Coal is in a relatively fortunate position. It has large reserves in central and southern Illinois, strategically located to serve the rapidly growing utility market.

"A significant portion are low-sulfur coals that command a premium for metallurgical uses and for power generation where sulfur emission creates an unacceptable level of air pollution.

"As we have mentioned in our reports, we have had some difficulties at one mine, Orient No. 5, because of earth conditions in the area. This has resulted in lower production from that mine than had been planned.

"We are currently completing, however, a new mine for Freeman Coal — Orient No. 6 at Waltonville, Illinois. When fully developed, the new mine will produce 3,000,000 tons of low-sulfur coal a year . . ."

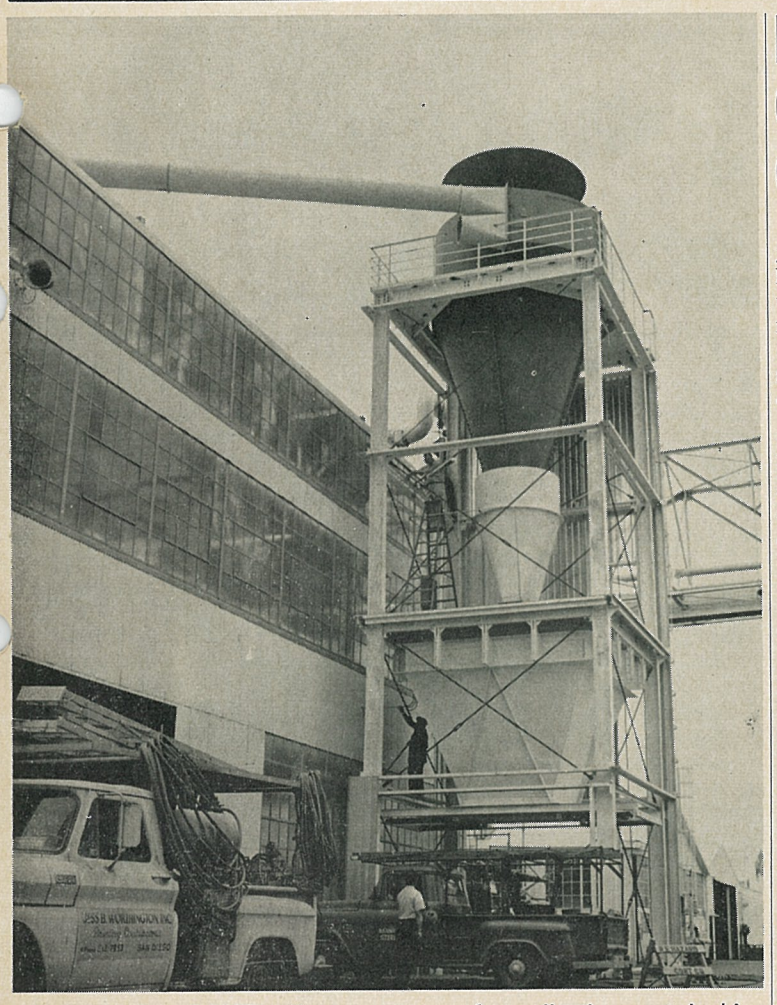


"I got most of it off in the bath tub."

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 15 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, July 17, 1968



INTO THE HOPPER—Monster system for collecting metal chips from new milling machines in Bldg. 1 at Lindbergh Field is being readied for action. Operating like a vacuum cleaner, chips will be sucked through pipes at top (only one is installed so far) and deposited in hopper for pickup by truck.

Spectacular

Giant 'Vacuum Cleaner' To Collect Metal Chips

A huge "vacuum cleaner" will go into operation soon at Convair's Lindbergh Field plant, capable of sucking up a railroad freight car full of aluminum chips every four hours.

The new metal chip pickup system will serve two huge, new Onsrud plank milling machines now being installed in Bldg. 1 and is the only one of its kind on the West Coast.

"The system is necessary," said Roger O'Connor, plant engineering supervisor, "because these new milling machines can literally bury themselves and their operators in metal chips from the cutting heads in a few minutes of operation. If manual chip removal were employed, the machines would have to be shut down, wasting expensive operating time."

The system was patterned after a similar one used by Avco in Nashville, Tenn. In charge of mechanical design was H. A. Buehler, design engineer, and electrical design work was done by J. Draggonetti, electrical engineer, both of Dept. 250. Cost, including

(Continued on Page 2)

'Skill Training Classes' to Begin For 50 'Hard Core Unemployed'

Convair division, in cooperation with the National Alliance of Businessmen, will provide jobs and an intensive training program in aircraft assembly and sheet metal hand forming for 50 individuals currently classed as "hard core unemployed."

M. V. Wisdom, director of industrial relations, said the training program will be the first at Convair specifically designed for employes in this category.

"We believe this program will be successful and that it will be the start of a continuing program for training of the disadvantaged," he said.

The first group of 10 trainees will enter the program July 29 and the last Dec. 16. Each group will receive five weeks of classroom "skill training"—compared with two weeks for other new trainees—followed by 16 weeks of "on the job" training.

Employes for the new program will be selected by the California Employment Service.

Jack Croft, chief of educational services, said the five weeks of classroom instruction for each group will be provided at AF Plant 19 by instructors from educational services, Dept. 130-3, and program-related factory departments. The 16 weeks "on the job" training will be at AF Plant 19 and Lindbergh Field.

Convair will receive partial reimbursement for the training costs from the U.S. Department of Labor through the President's JOBS (Job Opportunities in the Business Sector) program.

Rider-Driver Lot Passes Are Issued

Drivers normally eligible for the Rider-Driver Lot at Lindbergh Field are being issued temporary passes to permit entry in cases when one of the regular riders is ill or on vacation.

Passes are issued by lot guards, identify driver and car and are good for two weeks. Only the driver identified may use the pass and it must be turned in when expired.

Kits Sold For Conversion to Convair 640s

Sale of four Convair 640 propjet conversion kits to Lufthansa last month culminated negotiations which involved companies of five nations, and which took place in several major cities of Europe and North Africa over a period of three months.

The sale was announced by P. M. Prophett, Convair director of aircraft sales and service who represented Convair at the negotiations. He was assisted by Theodore Laven, manager of European sales, and S. Joe Harris, chief of contracts.

Companies and countries involved besides General Dynamics were: Air Algerie of Algeria, purchaser of four converted Convair 440s; Lufthansa of Germany, that sold the 440s and bought Convair's conversion kits; Rolls Royce, aircraft engine manufacturer of England, that sold Dart propjet engines to Lufthansa; and Aviolanda, a Holland aircraft firm that will convert the airplanes to model 640s.

Negotiations started last April when representatives of Air Algerie visited Lufthansa facilities in Hamburg, Germany, to inspect the Convair airplanes. They continued in Amsterdam with a visit to Martin's Air Charter who demonstrated a converted Convair 640 to the Algerians. Further negotiations were held in Algiers; Cologne, Germany; and in Woensdrecht, Holland.

"This is the first contract negotiated by Air Algerie since Algeria achieved independence," said Harris. "Previously, Air France had bought all of their equipment for them. They were very good people to deal with, and all of the negotiations were conducted on a company-to-company level, with no agents involved.

"The fact that negotiations were conducted in five languages; French, Arabic, German, Italian, and some English, did complicate things a bit."

Conversion will be to a 56-seat/cargo configuration, with seats capable of being folded against the cabin sidewalls when cargo is to be carried.

Tentative delivery schedule calls for the first completed conversion to be delivered in September, the second in October, and the last two in November. Convair service representatives will be in Woensdrecht, Holland dur-

(Continued on Page 2)





PLUSH—Coincident with conversion to Convair 640 propjet, aircraft interiors are being remodeled as well. Passenger version has seats which can be quickly folded against cabin walls to make room for cargo.

Atlas-Centaur Launch Approaches at Cape

Convair's Atlas-Centaur 17 will undergo combined readiness tests tomorrow (July 18) at Cape Kennedy and NASA's Applications Technology Satellite-D will be mated Friday as final preparations are made for next week's launch from the cape.

A "tiger team" from Convair's Kearny Mesa plant was at the Cape last week with Gerry Lucas, AC-17 project engineer, for prelaunch equipment assessment and flight readiness review.

The flight will be the first for Atlas-Centaur since Project Surveyor and will mark the first Atlas-Centaur launch of a payload for synchronous earth orbit.

Basic objective of the Applications Technology Satellite (ATS) program is to develop new technology for various future satellite applications.

ATS-D has been prepared primarily to demonstrate precision spacecraft stabilization in synchronous and stationary orbit by use of gravity gradient techniques.

A series of extended booms and a "yo-yo" de-spin device will be used in the stabilization experiment and will be monitored by an on-board TV camera. The satellite also will carry a series of meteorological, environmental and micro-thrust-propulsion experiments.

Atlas SLV-3C No. 5104's booster and sustainer engines will power the first four minutes of the AC-17 flight, with insulation panels and nose fairings being

(Continued on Page 2)

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

★ ★ ★

Q—Here at Complex 13, Eastern Test Range, we have 54 people but we only receive six copies of **GD/NEWS.** Can anything be done about this? We find "Q and A" particularly interesting.

A—The mail room at ETR distributes GD/NEWS and their distribution list is being revised at once. Incidentally, Convair shipping makes an extra effort to send out offsite papers with dispatch. "Q and A" would be interested to know when they actually reach you in reference to their date.

★ ★ ★

Q—I rejoined the Salaried Retirement Plan when I was

(Continued on Page 2)

Atlas-Centaur Undergoing Readiness Tests at Cape

(Continued from Page 1)

jettisoned prior to sustainer engine cutoff.

Centaur 14D's 30,000-pound-thrust liquid hydrogen engines will have a "first burn" of about 5½ minutes followed by a record-establishing hour-long coast through space before propellants are settled and a second engine "burn" of 1 minute 43 seconds is instituted. Centaur's "parking orbit" coast during the "two-burn" Surveyor missions was for about 25 minutes.

The ATS-D will be separated from the Centaur about 75 minutes after liftoff from Complex 36-A at Cape Kennedy. The Centaur's orbital path then will be separated from that of the satellite through maneuvering of the Centaur by hydrogen peroxide jets and firing of propellants over the Pacific west of the South American continent. The "blow down" will place the Centaur vehicle in an elliptical earth orbit.

Lucas will be team chief for the "tiger team" review at the Cape with J. W. Ball and J. F. Serafin as team coordinators, J. W. Swigart as Atlas program leader, J. A. Hughes as technical chief and C. C. Campbell Jr. heading equipment assessment.

Other members of the team from Kearny Mesa and areas of responsibility are:

Mechanical systems—John Jarman (captain), James Warkomski, Hal Hahn, Ed Kimmy, Al Haury, Charles Aulgur, Fred Manning.

Electrical systems—Hobie Yett (captain), Robert Broxholme, L. D. Harber, Joel Simmons, Gerry Owen.

Flight control — David Peterson (captain), Duane Quinn, Dennis Huber, H. E. Harper, Kenneth Catlin.

Structures and analytical—Emmitt Christensen (captain), Richard Summers, Joe Azeka, George Jerahian.

Reliability — C. C. Campbell Jr. (captain), Jack Taylor, A. W. Wiest, Nick Brown.

NASA representatives and a number of Convair division ETR personnel also will participate.

Convair Daughter's Essay a Winner

Nancy Dittmann, 16-year-old daughter of William L. Dittmann, a design specialist in Convair's Dept. 578-0 at Lindbergh Field, won a recent "God Bless America, What My Country Means to Me" essay contest for 10th, 11th and 12th grade students in San Diego city schools.

She was presented a $100 savings bond by Marine Gunnery Sgt. Jimmie Howard, Medal of Honor winner.

Nancy will be a senior at Crawford High School next year. The essay contest was sponsored by the San Diego Association of Life Underwriters.

Giant Vacuum Cleaner' Built

(Continued from Page 1)

installation which is still in progress, will come to approximately $140,000.

There are two separate systems, one for each mill, with movable pickups on each one, consisting of huge, sheet metal "vacuum attachments" not unlike those used on a home vacuum cleaner. The pickups follow the mill's cutting heads as they progress the length of the mill bed. Vacuum pumps, one for each mill, located on the building's roof and driven by 75-hp electric motors, suck the chips from the mill bed to a unique "collection box" which has a sliding lid of stainless steel belting and follows the movement of the vacuum pickups.

From the collection box the chips go to a huge hopper outside Bldg. 1 where the chips are stored for pickup by truck.

Installation of the chip pickup system was contracted by Convair to Westmont Engineering Co. of Santa Fe Springs, Calif. Completion is scheduled to coincide with the completion of the milling machine installation, one of which will be ready near the end of July, and the other in the fall.

HERE ARE YOUR REPRESENTATIVES

An important part of democratic government is the privilege of voters' making their opinions known by writing to representatives in Congress.

U.S. SENATORS

Sen. Thomas Kuchel — Senate Office Building, Washington, D.C. 20510.

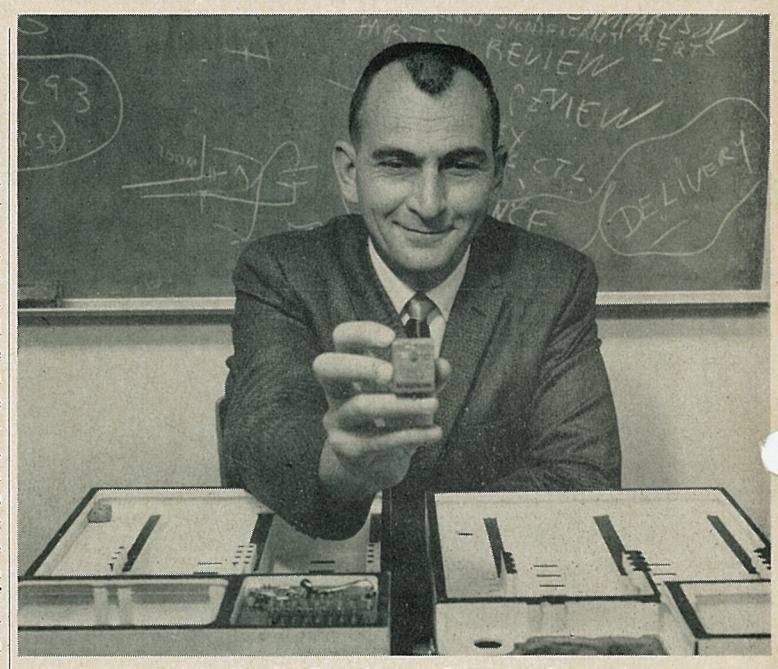
Sen. George Murphy — Senate Office Building, Washington, D.C. 20510.

U.S. REPRESENTATIVES

35th District — Rep. James B. Utt, House Office Building, Washington, D.C. 20515.

36th District — Rep. Bob Wilson, 2235 Rayburn Building, Wahsington, D.C. 20515.

37th District — Rep. Lionel Van Deerlin, House Office Building, Washington, D.C. 20515.



VALUABLE IDEAS—K. C. Lejman, Convair electronics group engineer, holds sub-carrier oscillator and displays different types of telemetry housings relating to value engineering and cost reduction projects he has instituted for possible saving of $400,161.

Three Cost Saving Projects Involve Using Surplus Parts

Three value engineering and cost reduction projects instituted recently by Ken Lejman, Dept. 967-9 electronics group engineer, are expected to save Convair division more than $400,000.

Cost avoidance of $165,963 is expected from use of surplus sub-carrier oscillators that meet test requirements for new and higher priced units previously scheduled for purchase for use in Atlas-Centaur launch vehicle telemetry systems.

An additional saving of $234,198 is anticipated from two value engineering projects in which old launch vehicle telemetry housings are being machined and used in place of new units being designed, fabricated and qualification tested.

Lejman found that two types of sub-carrier oscillators remaining from previous Atlas and Centaur programs and that cost $250 each could meet performance characteristics of $600 and $800 units scheduled for purchase and use beginning with the Atlas-Centaur 16 launch vehicles.

He and Seymour Zeenkov of Dept. 950-1 presented information and NASA instituted a change order for testing and use of the surplus oscillators.

A total of 542 of the small units were recovered from disposition stores, spares inventory and storage cabinets in engineering and factory areas through the efforts of Walt Rix, an engineering administrative assistant.

Sixty-two per cent of the first group of 115 tested were found acceptable and an additional 13 per cent were returned to the manufacturer for rework. A total of 156 of the little oscillator units will be used in telemetry packages on the AC-16 through AC-20 launch vehicles.

Saving of $99,424 will be achieved through refurbishment and use of five surplus telemetry housings on the AC-16 through 20 Centaur vehicles instead of design, fabrication and qualification testing of new ones.

When the housings could no longer be obtained from the previous vendor firm, plans were made to generate drawings for in-plant production of new units.

Several similar old housings that had been used previously for testing or other purposes were located by Lejman and five are being used after being run through X-ray and dye penetrant tests.

Lejman's latest value engineering project, now being implemented, involves machining of additional surplus telemetry housings to a new configuration instead of fabrication of entire new units.

Potential saving from modification of 26 such units for use on both booster and second-stage vehicles, beginning with Atlas-Centaur 19, is $134,774.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between July 1 and July 15.

Thirty-year: Dept. 059, P. R. Willoughby Jr.

Twenty-five-year: Dept. 149, W. R. Orvick; 195, A. L. Baber; 756, C. O. Lee; 975, J. J. Frontiero.

Twenty-year: Dept. 016, Neva H. Fischer; 059, O. A. Copley, Ebba T. Pemberton; 149, L. L. Walker; 193, V. Klemaseke; 300, A. M. Goodwin; 400, Evelyn M. Jennings; 451, M. S. Payne; 833, Opal S. Loeffler; 950, G. D. Davis.

Fifteen-year: Dept. 015, E. D. Robertson; 019, D. Johnson; 059, B. B. Bludworth, A. J. Catalano; 143, W. D. McNeil; 191, Josephine Albano; 250, Laverne Moore, M. D. Palmer, Ernestine Thompson; 519, J. M. Neal; 531, P. W. Corbett, J. D. Rittweger; 544, L. R. McClain; 550, R. K. Walter; 572, C. R. Maikish; 574, T. J. Fleck; 579, N. J. Callas; 780, Dorothy J. Alameda; 835, V. W. Walsh; 962, Carmen V. Coffey.

Ten-year: Dept. 015, A. F. Homan, L. J. Kelly; 115, R. J. Parsons; 193, R. C. Russell; 250, R. L. Scales, J. I. Warren; 401, D. C. DeFord; 420, R. L. Swinford; 460, R. W. Mark; 512, W. J. Williams; 515, T. A. White; 518, Rowena R. Randall; 524, Harriet P. Baker; 526, L. W. Springer Jr.; 541, D. Brown, P. R. Erickson; 545, P. A. Nyquist; 575, R. A. Smalley; 596, S. M. Trujillo; 810, R. C. Tilton; 833, Joy Hicks; 950, S. Zeenkov; 962, H. L. Hahn, J. P. Hancock; 966, E. H. Christensen, R. F. O'Neill; 967, J. W. Mildice; 969, J. J. Kiszla; 979, W. E. Apfel, B. L. Benninghoff, M. S. Campbell, D. F. MacLean, J. H. Stokes; 985, D. D. Bechtel, A. L. Estalio, N. D. Pagel.

STROMBERG DATAGRAPHICS

Ten-year: Dept. 8510, C. J. Barber.

Five-year: Dept. 8511, W. I. Krewsun.

ELECTRONICS

Twenty-year: Dept. 106, C. H. Gerdes; 427, J. A. DeTate.

Fifteen-year: Dept. 426, C. A. Ganger; 611, J. F. Langston; 811, D. M. Hill; 921, R. D. Brant.

Five-year: 612, D. M. Borkenhagen, R. F. Nuetzman; 613, C. E. Jones.

Awards

CONVAIR

Employe Suggestion awards approved for the week ending June 28, 1968.

Dept. 401, H. B. Bishop, $32.80 (two awards); 015, E. O. Brink, $49.30; 027, M. R. Brown, $21.70; 001, J. A. Chenakow, $122.80; 143, D. A. Falls, $48.10; 045, I. D. Howarter, $15.00; 143, W. D. Kennedy, $56.10; 059, P. N. Le Duc, $15.00; 144, W. G. Lux, $33.00; 143, R. A. Mendoza, $15.00; 780, T. W. Myers, $15.00; 715, J. A. Pinson, $63.40; 143, M. Purcell, $49.20; 146, C. L. Willey, $23.20; 016, F. A. Zbink, $15.00; 149, A. R. Zullo, $139.00.

Employe suggestion awards approved for the week ending July 5.

Dept. 059, T. A. Anderson, $166.40; 016, L. W. Barbour, $26.80; 733, G. M. Butcher, $15.00; 027, R. E. Cloud, $123.00; 015, A. T. De Casas, $15.00; 027, G. L. Dickerson, $39.80; 143, J. Doyle, $51.80; 733, T. L. Duenez Jr., $15.00; 143, V. M. Frankfather, $176.00; 401, H. S. Hagen, $50.40; 759, W. J. Hankins, $130.35; 143, W. D. Kennedy, $15.00; 146, K. McCaffertey, $73.90; 016, A. V. Minor, $15.00; 780, T. W. Myers, $15.00; 002, C. O. Owens, $31.80; 300, W. Porter, $130.35.

Papers Presented

CONVAIR

LUDWIG—C. B., Dept. 596. "Remote Sensing of Rarefied Gas Flows Through a Fluorescence Technique." AIAA/3rd Thermophysics Conference, Los Angeles, Calif., June 24-26.

YAGER—E. K., Dept. 507. "A Dynamic Torsiograph System for High Speed Machinery." ISA/14th National Aerospace Instrumentation Symposium, Boston, Mass., June 3-5.

Papers presented at ASME/Aviation and Space Conference, Beverly Hills, Calif., June 16-19.

JARLETT—Frank, Dept. 581. "The Hydrogen Fueled Hypersonic Transport."

LEONHARD—K. E., R. E. TATRO, J. E. COLLOM, Dept. 584. "Development of a New Superinsulation for Cryogenic Space Tankage."

Papers presented at AIAA/4th Propulsion Joint Specialists Conference, Cleveland, Ohio, June 10-14.

LOWE—W. H., Dept. 507. "Development of a Test Stand Used to Evaluate the Static Performance of Scale V/STOL Exhaust Nozzles."

MYERS—B. F., Dept. 596. "Reaction and Ignition Delay Time in the Oxidation of Propane."

Papers presented at Gordon Conference on Dynamics of Molecular Collisions, Proctor Academy, Andover, New Hampshire, June 17-21.

NEYNABER—R. H., Dept. 596. "Studies with Merging Beams of Na & 02."

ROTHE—E. W., Dept. 596. "Investigation of Reactive Collisions Using High Energy Neutral Beams."

Retirements

ANGUS—Alexander G., Dept. 192. Seniority date Mar. 2, 1956, retired June 28.

CARPENTER—Robert D., Dept. 979. Seniority date Jan. 26, 1959, retired June 14.

COLLIER—Margaret G., Dept. 840. Seniority date Sept. 26, 1955, retired June 28.

McCULLOUGH—Charles H., Dept. 780. Seniority date July 10, 1950, retired June 30.

MINETTE—Emil J., Dept. 519. Seniority date June 20, 1958, retired June 30.

MONTIJO—John P., Dept. 149. Seniority date Jan. 12, 1951, retired June 28.

WOOLFORD — Jessie E., Dept. 780. Seniority date Aug. 16, 1950, retired June 28.

Rider-Driver

CONVAIR

RIDE WANTED—From Olney and Garnet, Pacific Beach to Kearny Mesa plant. 7:30 a.m. to 4:15 p.m. shift. Call Danni Carlton, ext. 3136 KM or (home) 273-7644.

RIDE WANTED—From Eads St., La Jolla to Kearny Mesa plant. 7:00 a.m. to 3:30 p.m. shift. Call Grace Cline, ext. 1947 KM or (home—days) 454-0627.

Births

CONVAIR

DOHM — Daughter, Shelly Elizabeth, 8 lbs. 3 oz., born July 1 to Mr. and Mrs. Frank Dohm, Dept. 588-0.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N. Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Continued from Page 1)

rehired. If I return to the fund the money I withdrew when I was terminated, plus any additional capital and interest that would have occurred normally had I not been laid off, could my participation in the plan be considered continuous?

A—You may restore those benefits earned during your previous period of employment by paying back the money you withdrew when you were laid off; however, you cannot make back payments to cover the period of time you were not on the active payroll. Your retirement plan service is considered continuous only when you leave your money in the plan. Any withdrawal of funds constitutes a break in service.

★ ★ ★

Q—Is it possible to have all deductions, such as insurance, Con-Trib etc. taken from the vacation check instead of the first check earned after return from vacation?

A—The majority of our employes prefer to have no deductions from their vacation paycheck. Since it appears of little difference whether the deduction is made before or after vacation time, from the standpoint of net cash received, it does not appear worthwhile to make the deduction optional.

★ ★ ★

Q—Does Convair have any plans to enter the jumbo jet servicing field for the smaller carriers? Since it would not be economically practical for many of these carriers to build the necessary large facilities to service the big jets, wouldn't this be right up the alley of the Convair Service Center?

A—No, Convair has not made plans to enter the jumbo jet service field. Your question raises the important point that to get into such a field we would need large and extensive facilities, mostly new. At present, and for the foreseeable future, any major commitments of funds for new facilities will be directed toward increasing the manufacturing capability of Convair. This is needed to meet the growing volume of production work at our LF plant, while improving our competitive position in aircraft production.

Kits For Conversion To Convair 640 Sold

(Continued from Page 1)

ing conversion to render assistance.

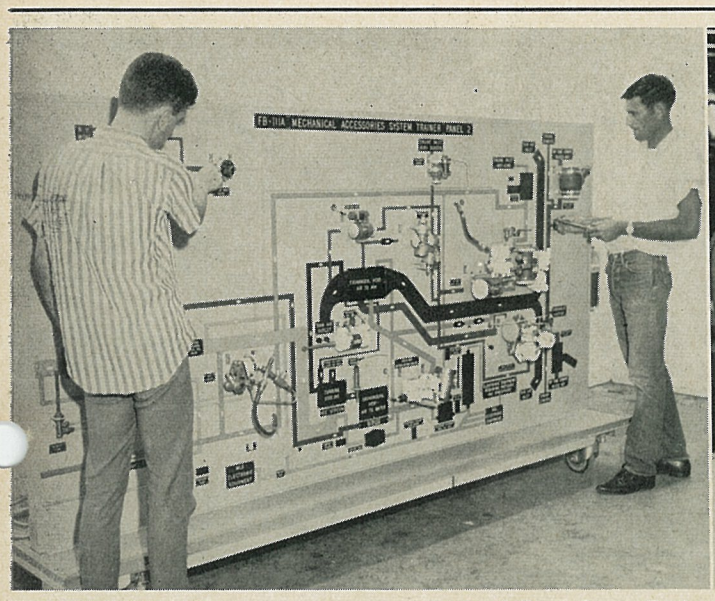
Total combined value of the sale to Air Algerie is $4.36 million which includes spare engines, but excludes other maintenance spares.

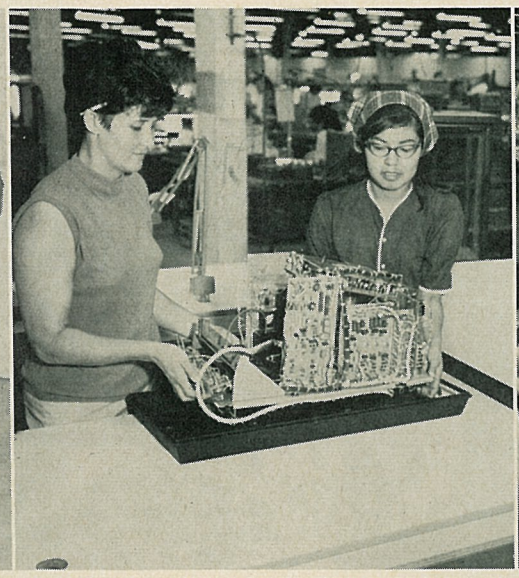
Spares provisioning negotiations were conducted in Hamburg, Germany. John Doig, Convair manager of support contracts, is representing Convair.

Role in Surveyor Program Outlined

The role of Convair's Atlas-Centaur vehicles in the Surveyor program was discussed by Grant L. Hansen, vice president-launch vehicle programs, July 11 at a meeting of the East San Diego Kiwanis Club.

"One - One - Zero - Zero," the award winning Convair-produced film on the Atlas-Centaur 10 and Surveyor 1 mission, also was shown.



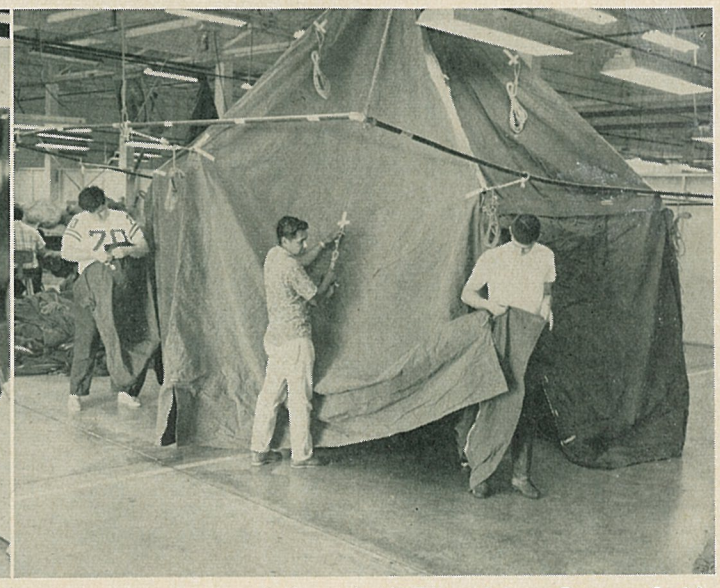




VERSATILE—These scenes are typical of Stromberg-Carlson's Ardmore (Okla.) plant activity. From left: Richard Pearson and Charles Stewart put finishing touches to F-111 trainer; Lois Nelms and Sharon Holt show complex interior of SD-1110 computer display; production of circuit-plate assemblies for telephone exchanges.







From left: Mike Thomas, electronics technician, displays relatively new products, portable ultrasonic measuring device and an electronic welder; electronic assemblers such as Dorothy Forbes acquired skill through MDTA training; George Smith, Jimmy Bob and Mickey Warren inspect tent prior to shipment to Viet Nam.

Ardmore (Okla.) Plant Has Grown From Scratch to 'Going Concern'

Ardmore (Okla.) plant of Stromberg-Carlson has burgeoned into an active manufacturer of both military and commercial products.

The plant began operations in converted warehouses 3½ years ago at Ardmore Air Park north of the city (formerly Ardmore AFB).

Since then, its employes have manufactured products ranging from sophisticated electronic equipment for the F-111 and telephone systems to tents used by GIs in Viet Nam.

Result of the operation has been a business upswing for Ardmore (pop. 24,000) and the surrounding area.

"We started from scratch," said Clyde Ford, manager of the plant from the outset. "Our payroll has reached 700, and I'd say 95 per cent of our people came from Ardmore and other nearby towns."

And the plant has managed to build a healthy 50-50 military-commercial product mix.

The main plant's busy telecommunications department turns out an increasing number of circuit-plate assemblies for telephone exchanges. This work is primarily for Stromberg-Carlson at Rochester, N.Y.

"We manufacture, test, package and ship the items to customers throughout the nation," Ford said.

A huge U.S. map in the plant is covered with hundreds of red pinpoints. Each indicates where Ardmore has done business.

Recently, the plant started manufacturing and assembling the SD-1110 computer display for Stromberg Datagraphics, Inc., the relatively new GD subsidiary in San Diego.

The SD-1110 consists of a logic section, a keyboard and CHARACTRON® display tube.

"An operator 'types' information to the computer," Ford said, "and the 'answer' comes out almost instantly on the display screen.

"Pan American Airways has ordered 50 of the units for a pilot program. Needless to say, we're quit enthusiastic about this new line."

Ardmore manufactures a new electronic welding machine for another GD subsidiary, Liquid Carbonic. The units can weld around a stainless steel pipe two inches in diameter in a short time—flawlessly and with a uniformity heretofore unattainable.

Another new product in the research stage is the Stubbmike, a portable, ultrasonic micrometer. It enables an operator to measure the thickness of metal—say an F-111 wing section—within one thousandth of an inch.

Militarily, the division manufactures F-111 maintenance trainers. This is the sophisticated electronic gear the Air Force uses to teach F-111 maintenance personnel.

"At one time or another, we've produced all 20 trainers in this set," Ford said. "We're still turning out a number of the units for Fort Worth. This was Ardmore's first program and it continues to be very important to us."

Ardmore personnel have done harness work for F-111 systems and instrumentation modules for flight-test groups.

The plant is even "in space." It assembled the large external cable for launch pad No. 39 at Cape Kennedy from which the Saturn V is launched by the National Aeronautics and Space Administration.

Since opening in September of 1964, the division has manufactured 15,700 tents of various description for the Armed Forces.

"We've done over $3.5 million in tent business for service units," Ford said. "Business is slowing down now, but we're looking for more activity because of the considerable know-how we've developed in this manufacturing specialty."

Management is understandably proud of its versatile work force, which it helped develop almost entirely.

"We've trained about 600 people — mostly mechanical assemblers, sheet-metal workers and electrical and electronic assemblers — through the Manpower Development Training Act," Ford said.

The plant furnished much of the instruction for courses offered through the Vocational Technical School in Ardmore. Average class was from six to 10 weeks.

Six General Dynamics employes — three from Fort Worth and three from Convair — formed the managerial nucleus. Three are still at Ardmore, Ford, H. E. Miller, industrial relations manager, and John Miller, production manager.

The Ardmore plant functioned directly under Corporate Headquarters until last year, when it became a part of Stromberg-Carlson.

Other Members of GD Family Find Ardmore Good Producer

Ardmore believes in interdivision/subsidiary cooperation.

The plant manufactures a number of items for other General Dynamics units, such as Fort Worth, Liquid Carbonic and Stromberg Datagraphics.

In addition, Ardmore frequently calls on individual talents within the GD family.

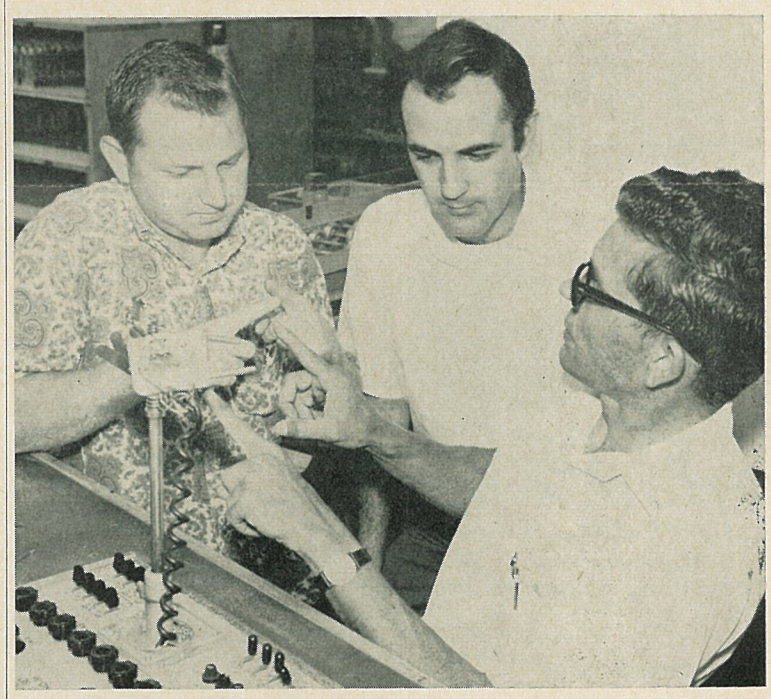
For example, the plant manufactures an electronic welder marketed by Liquid Carbonic. The welder was invented at Electric Boat division.

Another instrument in the research stage is the Stubbmike, an electronic device for measuring the thickness of metal. A Fort Worth engineer invented it.

Ardmore also manufactures a collapsible tent patented by a Fort Worth division employe.

"We have the capability of generating our own business," says Manager Clyde Ford, "so we're always on the lookout for good ideas from others."

You can buy U. S. Savings Bonds regularly for as little as 50 cents a week.



COMMUNICATING—Raymond Finley, right, one of 10 deaf mutes at Ardmore plant, converses through sign language and interpreter, Ed Wilson, with his foreman, Roger Helms.

Life of Silence

Skilled Work Force Includes Ten Who Can't Hear or Speak

Raymond Finley can neither read nor write, yet he is an efficient electronics technician at Stromberg-Carlson's Ardmore (Okla.) plant.

"Finley is one of 10 deaf mutes we have on the payroll," said H. E. Miller, industrial relations manager. "We hired these people during a help - the - handicapped campaign in the area."

All 10 are from the Oklahoma State School for the Deaf in Sulphur, 18 miles northeast of Ardmore.

"Most of them completed high school before enrolling in vocational courses sponsored by the Ardmore facility," Miller said.

School for the Deaf instructors helped these people during their training. But once on the payroll, they were "on their own."

"Naturally, communication isn't easy for them," Miller said. "But we're fortunate to have a couple of interpreters who can use sign language."

If Finley has a question about his job, for example, he'll relay the information via sign language to J. W. Banks, a machinist. Banks then passes on the question to Finley's foreman.

Banks has plenty of experience in sign language. Every Sunday at his church, he "relays" the minister's message to deaf people in the congregations through sign language.

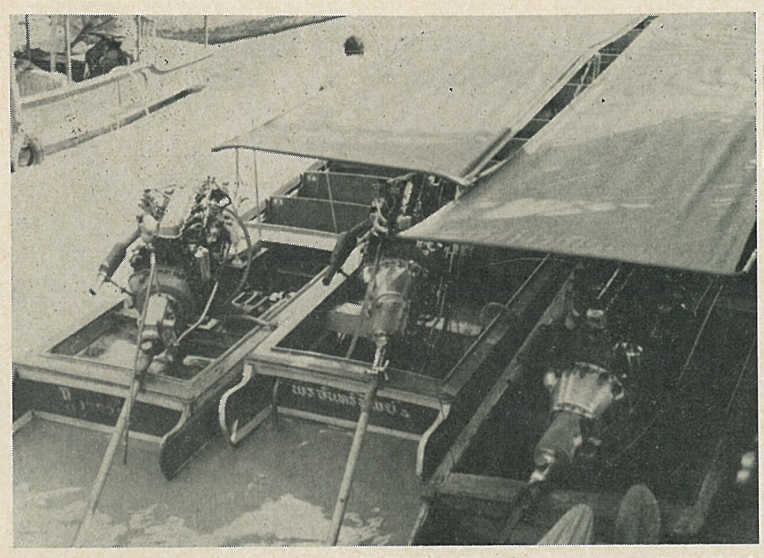
"Not being able to hear is a definite handicap," Miller said, "but it has compensations.

"These people are often able to concentrate to a very high degree, since they can't hear outside noises. This ability can be a real virtue in some of the meticulous electronics work."

So far, at any rate, Ardmore's decision to help-the-handicapped is a success.

"We have given employment to about 16 per cent of deaf adults in Sulphur, people who might otherwise have been unemployed," Miller said.

About nine per cent of Ardmore's plant population is Negro; about six per cent is Indian.



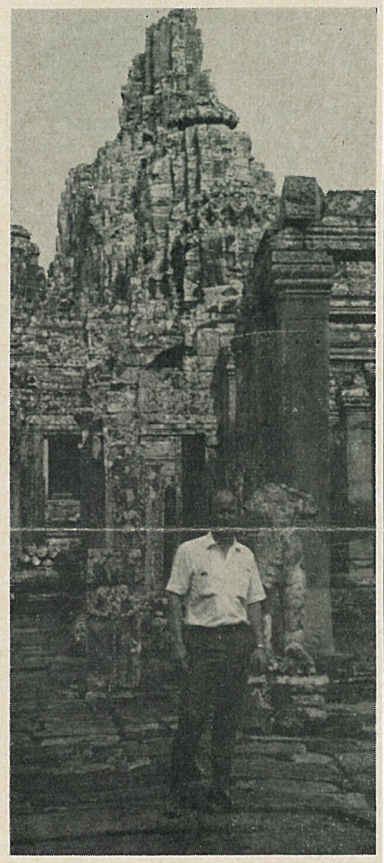
TAXI!—Water taxis at Bankok, Thailand. Note propeller shaft directly from auto engine, so mounted to give shallow draft. Engine swivels and that's how they steer.

It's Hopeless

Even in Southeast Asia You Can't Escape Rock and Roll

Even on a 22,000-mile tour of the Orient, a traveler can't get away from the States.

"There's Rock and Roll on the air and in nightclubs, Bonnie and Clyde in the theaters, Playboy on the magazine stands and even on the border of Red China there are Coca Cola and Pepsi signs."



FAR AWAY—Lee Bettis of Convair, shown at Angkor Wat in Cambodia during recent trip to Orient.

So reports Lee Bettis, technician in Convair's ocean data station program, back from a vacation trip that included Japan, Taiwan, Hong Kong, Cambodia, Thailand, Malaysia, Singapore and the Philippines.

An inveterate vacation traveler (criss-crossing the U. S. many times, inspecting 42 of the 50 states), Bettis said "I went to the Orient because I had just about run out of things to see at home."

Basic cost of the trip was $1,500, including transportation chiefly by air, accommodations, guides, the works. It was arranged by a travel agent.

"I was met by a guide at each stop who took care of everything. Sometimes I didn't even see my luggage until I reached the hotel room!"

Flying was in a variety of airplanes depending upon location. They included Convair 880, Boeing 707, DC-8, Comet 3 and Comet 4, a Caravelle, and even a DC-3!

"Buying is often a workout in mental arithmetic, trying to translate into U. S. dollars, with yen at about 360 to $1, Taiwan dollars at around 54 to one U. S. and Hong Kong dollars at five to one."

With Convair more than 18 years (he worked on B-36s, Sea Dart, F-106, 880 and 990 and Little Joe) Bettis is an adventurous type. He's been a sky diver (bail out at 8,000 feet) and a skin diver (down to 200 feet off La Jolla) and has more than dabbled in motorcycle and auto racing (in company with Joe Leonard whose jet car just missed winning at Indianapolis). His major bent at the moment, however, is travel.

"Next year: India."

COST TARGETING ARTICLE APPEARS

"Try Cost Targeting!," an article by Lloyd Curtis, a value engineer in Convair's Dept. 954-0, was published in the July issue of SAVE News, a newsletter of the San Diego chapter of the Society of American Value Engineers.



SAWE HONORS—Jack M. Youngs, left, and Edward R. Hood, right, display Revere Cup awards received for having presented most outstanding technical papers to San Diego chapter of Society of Aeronautical Weight Engineers during 1967-68 club year. Ray Benson, center, received certificate; E. E. Benson a booster plaque.

Army Leases SDI Systems

Stromberg Datagraphics, Inc. has leased 14 SD 4360 micromation systems to the U. S. Army for use in the Far East.

The first shipment of three SD 4360s left the El Cajon plant June 14 under military escort. Also included in the shipment were a number of microfilm viewers, developers, and copiers as well as spare parts, test equipment and expendable items such as microfilm and film processing supplies.

The three SD 4360s, destined for Hawaii, Okinawa and Viet Nam, were airlifted across the Pacific by the Military Airlift Command (MAC). Other SD 4360s will be shipped shortly to Japan, Korea and Thailand. Delivery of all SD 4360 systems is expected to be completed by September, 1968.

* * *

W. E. Teagardin heads up a technical support group to provide customer engineering services for 14 SD-4360 micromation systems leased by the Army for Far East use.

He is being assisted by Ronald Houghton, Charles Persing, Harold Swayze and John Dohany.

Teagardin, who left June 3 with his family for his station in Hawaii, will have to travel almost 20,000 miles to make the rounds of his responsibility which includes bases in Japan, Okinawa, Korea, Thailand and Viet Nam.

Houghton, Persing and Swayze also left June 3, and Dohany July 8.

Houghton went to Viet Nam, where he is assisting in the installation of an SD-4360 micromation system and other equipment. He will then go to Korea where he will be responsible for the installation and maintenance of equipment in Taegu, Korea. He will also assist with installations in Japan.

Persing is currently in Okinawa where the system became operational June 25. He will be assigned to Camp Zamma, Japan, located about 45 miles from Yokohama and will be responsible for equipment at a supply depot in Japan as well as that which will be installed at Camp Zamma, and will assist Houghton in Korea as well as provide additional support to Okinawa as necessary.

Swayze has been assigned to Viet Nam where he will assist in equipment installation, and provide maintenance and technical assistance for four sites, including support of equipment installed in Thailand.

Dohany has been assigned to the Viet Nam and Thailand area, assuming responsibility for equipment installed in Thailand, and providing backup for Swayze in Viet Nam.

Duration of the assignment is expected to be approximately two years.

One other SDI employe, Ron Focht, left June 17 to assist in installation of equipment in Okinawa and Hawaii. He returned July 1.

Wives Club to Hold Hawaiian Luau

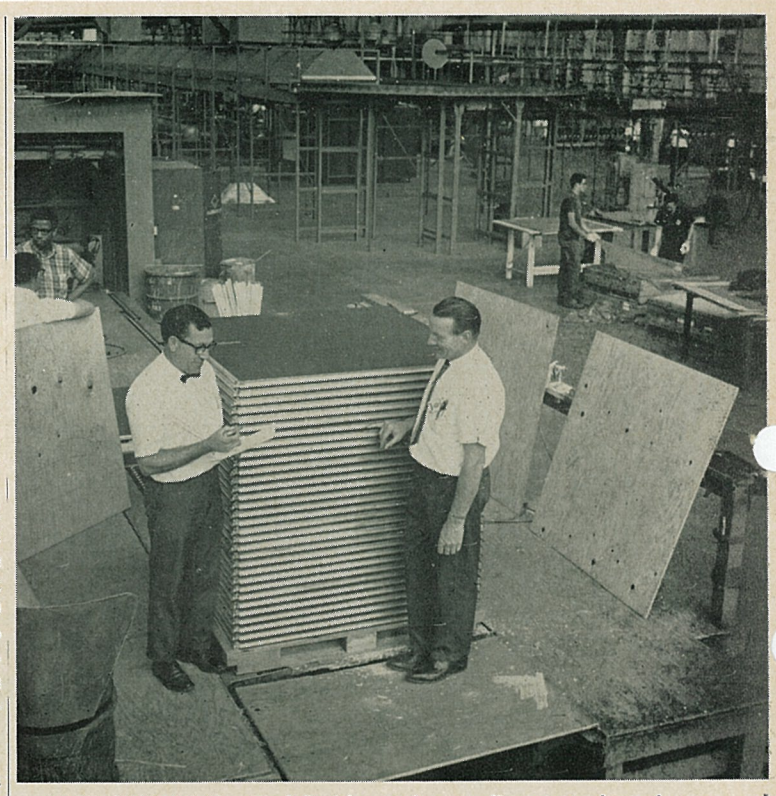
Convair Wives' Club has scheduled a Hawaiian luau for members and their husbands and friends at 6 p.m. July 27 at CRA Missile Park.

Each family is to furnish its own meat dish and a large pot-luck dish, preferably of Polynesian recipe. Dress in keeping with the Hawaiian motif.

BOWERS WILL CHAIR C OF C COMMITTEE

Jack L. Bowers, Convair division general manager, has been named chairman of the transportation committee of the San Diego Chamber of Commerce. He also will continue serving on the Chamber's board of directors.

You can buy U. S. Savings Bonds regularly for as little as 50 cents a week.



LAST SHIPMENT—Earl Smith, senior quality control engineer, and George Carroll, general foreman, check last pallet of airfield landing mats delivered under subcontract from Kaiser Aluminum Chemical Corp. Smith was instrumental in materially increasing production by initiating new concept of quality control. Carroll, who has been with mat program since its beginning in 1961, has performed major role in program's success.

Landing Mat Assembly Line Kept Ready For New Orders

Convair's landing mat assembly line is being kept in "ready condition" for future business although the second follow-on subcontract from Kaiser Aluminum Chemical Corp. has now been completed.

"Under the two subcontracts, the first beginning in 1966, we have processed more than 35 million pounds of aluminum and manufactured a total of nine million square feet of airfield mats," C. L. Jackson, landing mat program manager, reported.

During first week of production in 1966 an average of five mats an hour were made, but through constant improvement of the semi-automated assembly line and the adoption of more efficient fabrication and inspection techniques, rate of production during the last few months has exceeded 80 mats an hour.

"The continued increase of mat production rate is credited to an exceptional team effort of all supporting functions," said Jackson.

Additional Engineering Ordered For Pilot Transition Trainer

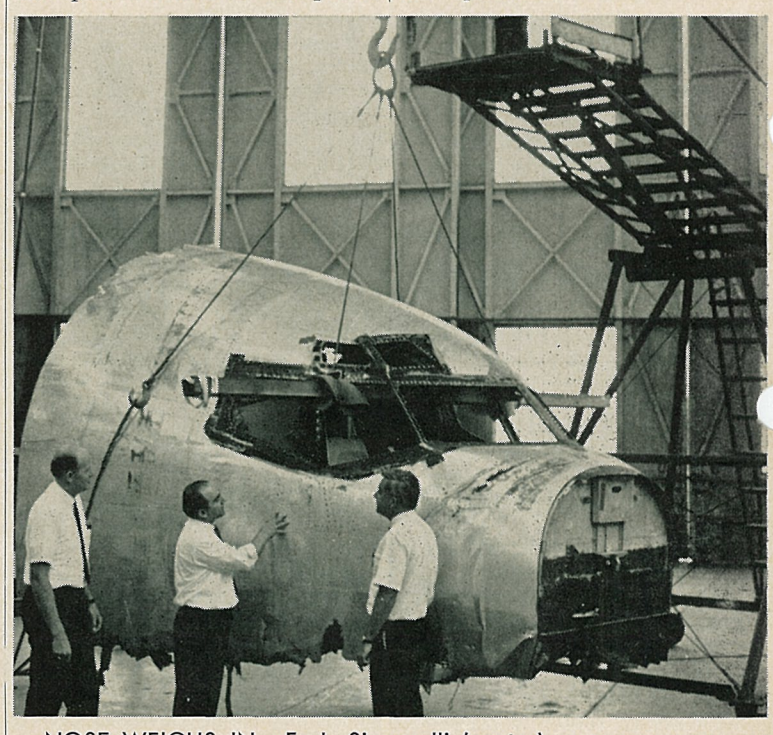
Convair has received an additional $200,000 in engineering services for the Total In Flight Simulator (TIFS) pilot transition training airplane presently being designed by Convair engineers for Tex Johnston, Inc., of Santa Barbara, Calif. (**GD/NEWS, June 19**).

The additional design work is for environmental control systems, nose landing gear, and hydraulic system design, and brings the total TIFS contract to just short of $1 million.

Convair engineers headed by F. J. Signorelli, program manager, are presently at work on design for modification of a Convair 580 transport which is to incorporate a Boeing 707 nose section on the forward end of the airplane.

A Boeing 707-720 nose section recovered from a damaged transport is presently located in Bldg. 5 at LF. The nose section will be torn down to basic structure by Convair workmen.

The TIFS airplane will incorporate a Boeing 707 flight deck in addition to the Convair flight deck, and will be equipped with 707 instruments and controls. By means of a computerized flight system, Boeing 707 flight characteristics will be simulated, for use in transition training by airline operators.



NOSE WEIGHS IN—F. J. Signorelli (center), program manager of the Total In-Flight Simulator (TIFS) design, supervises weighing of Boeing model 707-720 nose section to be modified and attached to nose of Convair 580 transport. R. L. Moore (left), and W. F. Wennheld, design engineers, will assist.





OFF AND RUNNING—At left is start of mile run in CRA Health Club-sponsored track and field meet. Left to right: Dave DeWitt, Jay Farrar, A. C. Justus, Richard Cristopher, Charles Adkinson, Elbert Smith, Art Lewis, Fred Minter. In photo at right Bill Marks Jr. hits tape after record 10-minute, 50-second, two mile open division run. He was almost two minutes ahead of second place runner. Meet drew 38 entries for ten events.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is July 23. Call ext. 1071 LF or 3322 KM. All meetings are held in CRA Clubhouse unless otherwise noted.)

★ ★ ★

ADVENTURERS — Meeting tonight, 7:30 p.m. Weekend trip to Sierra Juarez mountain area of Baja, California, July 20-21.

BADMINTON — Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BICYCLE CLUB — Mission Bay Park 25-mile ride, 9 a.m., July 27.

BOWLING — Winter leagues forming. Call Jim Hayman, ext. 581 LF or CRA Clubhouse, KM ext. 1111.

BRIDGE — Play each Friday, 7:30 p.m.

CAMERA CLUB — Meeting July 20, 7:30 p.m., Photo Arts Bldg., Balboa Park.

CERAMICS — Meet each Tuesday and Thursday, 7-10 p.m.

CHESS — Play each Wednesday, 7 p.m.

CHORUS—Rehearsals 7:30 p.m., Mondays.

COINEERS — Meeting tonight, 7:30 p.m., Convair cafeteria, Lindbergh Field. Discussion on English coins.

FENCING—Workouts and instruction Friday, 7:30-10:30 p.m.; YWCA, 10th & C Sts.

FISHING — Trip to Lake Henshaw, July 27-28. Potluck-fish fry Saturday, July 27.

GARDEN CLUB—Summer Show, July 28, 1-6 p.m., Floral Bldg., Balboa Park.

GOLF—Tournament July 20-21 at Rancho Bernardo.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Monday through Friday; 10 a.m. to 5 p.m. Saturday.

ICE SKATING — GD family skate night Thursday, 6:15-7:45 p.m., Mission Valley Ice Arena.

JUNIOR SCIENCE—Meeting July 19, 7:30 p.m.

MINIATURE RAILROAD—Operating sessions Saturdays, Sundays and holidays, CRA Missile Park.

MODEL HO RAILROAD—Work sessions 9 a.m. Saturday; 7:15 p.m. Tuesday, CRA Missile Park.

PISTOL CLUB—Shoot July 28, 9:15 a.m., S.D. Police Pistol Range.

RADIO CLUB — Meeting tomorrow, July 18, 7:30 p.m.

RIDING CLUB—Camping trip to Pine Crest July 26, 27 and 28.

SAILING CLUB — Meeting July 24, 7:30 p.m.

SCULPTURE—Workshop sessions each Monday, 7-10 p.m.

SQUARE DANCE CLUB—Dance 8-10 p.m. each Thursday.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m.

TRAILERS — CRA Travelers weekeond outing to Pine Crest, July 19-20.

WIVES CLUB — Hawaiian luau July 27, 6 p.m. at Missile Park.

Bowlers Make Plans For CRA Winter Loops

It's summertime, but even so, CRA keglers are reminded that winter bowling loops are being formed and will begin play the week of Sept. 9.

Bowlers are asked to register by calling Jim Hayman at ext. 581 LF or the CRA Clubhouse, KM ext. 1111. Organizational meetings will be scheduled at a later date to firm up plans for the coming season.

League schedule:

Monday, Clairemont Bowl and Aztec Bowl, Management Club League. Call Harry Lund, ext. 2907 KM or E. V. Laird, ext. 1329 LF.

Tuesday, Mixed, Clairemont Bowl and Parkway Bowl in El Cajon.

Thursday, Mixed, Frontier Lanes, Pacific Beach Bowl and El Cajon Bowl.

Friday, Mixed, Clairemont Bowl.

Friday, Men's Scratch Trio, Pacific Recreation.

Starting time will be 6:30 p.m. for all leagues.

English Coins Topic For Club Meeting

Dick Trowbridge will discuss English coins at a Convair Coineers meeting at 8 p.m. today (July 17) in the Lindbergh Field cafeteria.

All attending will receive a 1952-D uncirculated penny, five Mexican peso coins will be given as door prizes and 11 wartime nickels and five silver dollars will be awarded in a drawing. An auction will be held at the close of the meeting.

Flower Show Slated July 28

Color and fragrance await the public at the Garden Club's Summer Show July 28 in the Floral Bldg., Balboa Park where dahlias, corsages, fruits and vegetables will be displayed. Admission is free for the 1-6 p.m. exhibit.

About 2,000 dahlia blooms are expected, ranging from a half-inch to 15 inches in diameter. The club's corsage class, which has been meeting weekly, will display their work with awards for novice and open division winners.

Entries will be accepted on Saturday, July 27 from 7-9 p.m. and 7-11 a.m. the day of the show.

Entry forms are available at all employe services outlets and the CRA Clubhouse.

Anglers Plan July Lake Henshaw Trip

CRA anglers May outing to Lake Henshaw proved so popular that a second trip to the resort area is planned July 27-28. Meeting place will be in the campground where the club banner is displayed.

An evening potluck-fish fry is scheduled for Saturday's catch.

TRAVELERS PLAN RESORT WEEKEND

CRA Travelers trailer club members will combine their July business meeting with a weekend outing at CRA's Pine Crest resort in the Cuyamaca mountains July 19-21.

Virgil and Helen Marshall will be wagon masters. Pot-luck meals are planned.

Datagraphics, Gasp Tied in Softball Loop

Stromberg Datagraphics, 10-4 victory over Gasp resulted in a deadlock for first-half softball honors in the Tuesday slow-pitch league. Both finished with 4-1 records and a playoff will determine which will meet the second half champion.

In the Wednesday slow-pitch league, GD/E Bombers finished undefeated with a 6-0 record.

Cosmo Bums perfect 6-0 slate won the fast-pitch league. Their 7-0 victory over Flight Control, last season winner but this years cellar dweller, cinched the first half championship.

Second-half play is under way in both leagues.

STANDINGS

Fast Pitch

Team	W	L
Cosmo Bums	6	0
Dept. 250	4	2
Spoilers	4	2
Tecnics	2	4
Underbrush	2	4
Bushwackers	2	4
Flight Control	1	5

Tues. Slow-Pitch

Team	W	L
Datagraphics	4	1
Gasp	4	1
Test Lab	3	2
Material	2	3
GD/Engineers	2	3
Thermodynamics	0	5

Wed. Slow-Pitch

Team	W	L
GD/E Bombers	6	0
Los Olympicos	5	1
Datagraphics	3	3
Hi-Los	3	3
Hitless Wonders	3	3
Bullet Biters	1	5
Black Rabbits	0	6

Bike Club to Convoy Marathon Runners

CRA Bicycle Club members will assist in staging the national Masters' championship 26-mile marathon run for men over 40 Sunday (July 21) at Mission Bay Park.

The cyclists will ride in advance of the runners to spot possible trouble spots and provide assistance as needed. Members wishing to participate should call Agostino Arcidiacono, club president, ext. 1648 KM or (home) 454-6329.

The next regular club ride will be a 25-mile Mission Bay Park tour beginning at 9 a.m. July 27 at the public beach off Crown Point Drive.

Myke Dickey is ride leader, ext. 2379 KM or (home) 279-2442.

Track, Field Tickets Offered at 50c Off

Discount tickets to the First Annual U. S. Masters (40 & over) Track and Field Championships are available from employe services outlets at a fifty cent saving.

Tickets priced at $3 are on sale for $2.50 for the July 19-20 meet in Balboa Stadium. One ticket is good for both days of the event.

Health Club Athletes Compete in 10 Events

Bill Marks Jr. of Convair's Dept. 451-0 ran two miles in 10 minutes, 50 seconds June 29 to highlight a CRA Health Club-sponsored track and field meet at Kearny Mesa.

Thirty-eight participants competed in 10 events with first place winners being given trophies and second and third place contestants receiving medals.

Senior events were limited to employes over 40 and open events to those 18 to 40. Twelve to 18-year-old children of employes competed in a junior division mile run.

Two 51-year-old employes—Elbert Smith and Robert Franklin—edged out younger competitors to take first place trophies in the senior mile run and senior shot put events. Smith, of Dept. 954-2, ran the mile in 5:53.07 and Franklin, of Dept. 756-0, lofted the shot 39 ft. 5 1/3 in.

"These are excellent examples to show how employes over 40 can keep in good physical condition through a regular exercise program," Ralph Mansfield, Health Club director and track meet starter, pointed out.

Vicki Groesbeck, 16-year-old daughter of Wayne Groesbeck of Dept. 551-3, was the only female participant. She ran fourth in the junior division mile at 5:53.07.

Groesbeck, who recently became the second employe to complete 1,000 miles since the Health Club running program began last October, won the open division 3½-mile race in 21:15.2.

Mansfield was assisted in running and timing the track events by Robert Bulick, L. K. Thornburgh, Carl Dragilla and Joe Ragusa and Marks assisted with running of the shot put competition. Mrs. Jay Farrar was "official photographer."

Following are trophy and medal winners listed by event, department number and time or distance recorded:

Junior mile run — Larry Fitzgerald, son of L. E. Fitzgerald (250-3), first, 5:37; Bruce Justus, son of A. C. Justus (101-0), second, 6:42.6; Dave Groesbeck, son of Wayne Groesbeck (551-3), third, 7:06.3.

Senior 100-yard dash — Robert Bulick (101-0), first, 12.1; Frank Pallan (170-1), second, 12.4; Don Frisk (130-1), third, 12.6.

Open 1-mile run — Jay Farrar (780-0), first, 5:31.5; John DeWitt (460-0), second, 5:35.4; Richard Cristopher (454-0), third, 5:51.5.

Senior 1-mile run — Elbert Smith (954-2), first, 5:53.7; Fred Minter (190-0), second, 6:2; Art E. Lewis (954-4), third, 6:20.8.

Open 2-mile run — Bill Marks Jr. (451-0), first, 10:50; Arlen Cowgill (986-3), second, 12:43.8; Cliff Dismuke (101-2), third, 12:8.

Senior 2-mile run — Wayne Kerns (027-0), first, 13:37.9; Norman Frederick (491-0), second, 17:23.1.

Open 3½-mile run — Wayne Groesbeck (551-3), first, 21:15.2; John Martinez (DCAS), second, 25:00.3.

Senior 3½-mile run — Bill Walker (454-0), first, 21:26; Jacob Handrus (563-0), second, 22:46.9; Carl Dragila (591-0), third, 26:04.7.

Open shot put — Gerald Davis (101-1), first, 40 ft. 4 in.; Heaton Frazer (732-0), second, 39 ft. 5 1/3-in.; William Gallagher (583-0), third, 38 ft. 10½-in.

Senior shot put — Robert Franklin (756-0), first, 39 ft. 5 1/3-in.; Frank Pallan (170-1), second, 38 ft. 11 in.; Art Lewis (954-4), third, 28 ft. 5 in.

Six Will Run In 'Master's'

Six Convair Management Club and CRA Health Club runners will compete in the first national Masters Track and Field Meet for people over 40 this weekend (July 19-21) in San Diego.

W. J. Dawsey will compete in the 100-yard dash, Elbert Smith in the 440-yard run, Art Lewis in the 440 and 880-yard runs, Fred Minter in the mile run, Charles Adkison in the six-mile cross-country run and Bill Walker in the six-mile cross-country and 26-mile marathon runs.

Meet events will begin at 8 p.m. Friday and Saturday in Balboa Stadium and the marathon at 7 a.m. Sunday at the entrance to Sea World. Tickets are on sale at $2.50 each at CRA outlets.

The meet is being sponsored by the San Diego Recreation Department, San Diego Track and Field Club and Los Angeles Track and Field Club. Convair Management Club will host the marathon run and present trophies to winners at an awards dinner at 5:30 p.m. Sunday in the Atlantis Restaurant.

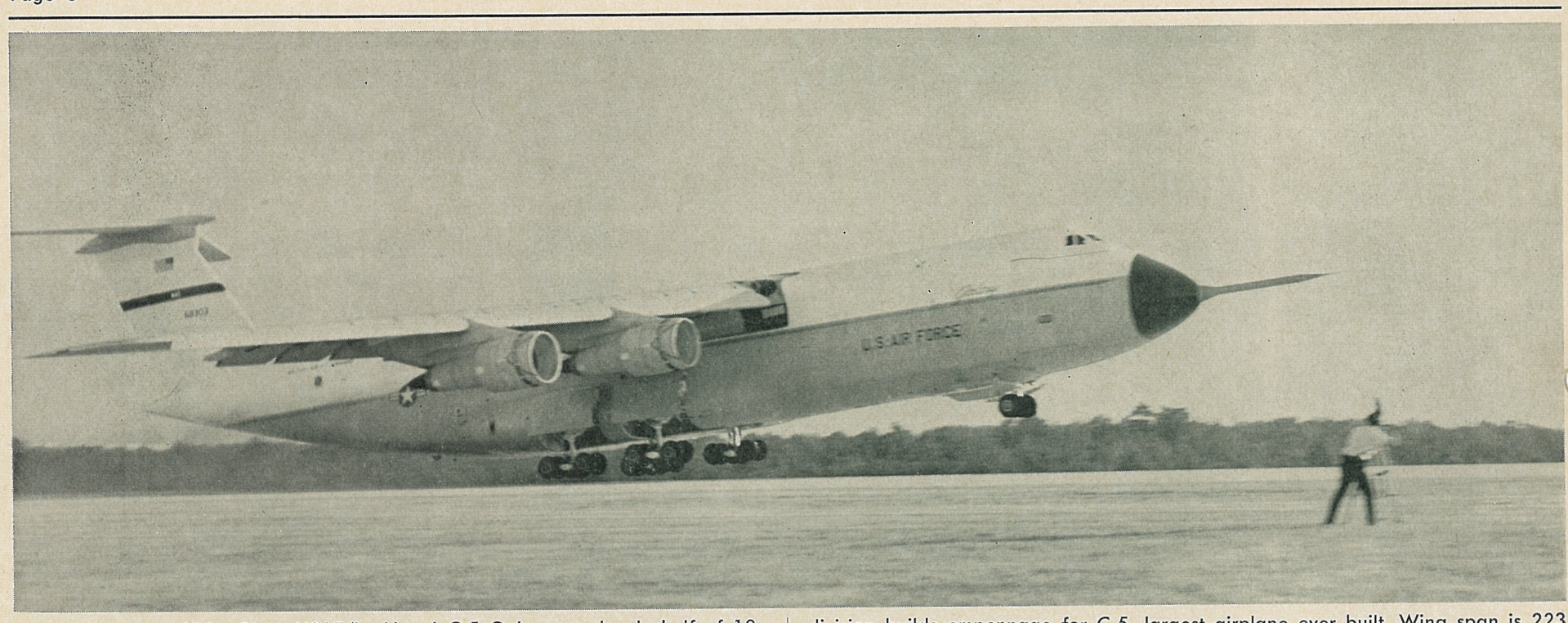
Additional information can be obtained by calling Dawsey, Management Club runners chairman, ext. 1455 KM.

Beginner Sq. Dance Course Scheduled

CRA Square Dance Club will sponsor a 16-week course for beginners from 8 to 10 p.m. Tuesdays beginning Sept. 17 in the CRA Clubhouse.

Clark Elliott, caller for the club, will be instructor. Cost will be 50 cents per person for each session.

Interested employes and family members may enroll by phoning J. B. Young, ext. 3208 KM.



SMOOTH TAKEOFF—Giant USAF/Lockheed C-5 Galaxy used only half of 10,000-foot Dobbins AFB runway near Atlanta when it took off on first flight. Convair division builds empennage for C-5, largest airplane ever built. Wing span is 223 feet.



PANELISTS—General Dynamics Flutter and Vibration panel met last month at Electric Boat division. From left, William Fender, Naval Undersea Warfare Center; R. F. Sammataro, EB; Thomas Butler, NASA; Dr. L. H. Chen, EB; John Elliot, NUWC; Raymond P. Peloubet, Fort Worth division; Michael Pakstys, EB (chairman); Bruce A. Bott, EB; John Maloney, Pomona division; James Henry, Canadair; Henno Allik, EB; C. D. Pengelly, Convair. Not present for picture, Kenneth Toulson, Canadair.

General Dynamics Licenses Vickers To Build, Sell Ocean Stations in UK

General Dynamics has licensed Vickers, Ltd., London, to manufacture and sell large ocean data stations and ocean navigation stations in the United Kingdom. It is the first such license granted by General Dynamics.

Vickers, one of the leading companies of the United Kingdom, whose main activities now include shipbuilding, general engineering, printing machinery, office equipment and medical engineering, will be able to provide complete ocean station systems—including the ocean stations themselves, sensors and telemetering equipment, navigational aids and land-based mobile data stations. Construction will be undertaken at its shipbuilding works at Barrow-in-Furness, Lancashire.

The ocean stations, developed for the Office of Naval Research by Convair division, are 40 feet in diameter, weigh 100 tons on station and are capable of operating unattended for more than a year. A prototype weathered, without interruption in performance, winds of 110 miles per hour and 50-foot waves in the Gulf Stream during Hurricane Betsy in 1965.

"We are delighted to have this opportunity to join with Vickers in providing this technology outside the United States," said Roger Lewis, president of General Dynamics. "We think these ocean stations have potential application everywhere in the world."

Leonard Redshaw, managing director of Vickers' shipbuilding group, said: "Our first effort will be to provide ocean stations for navigational purposes in the United Kingdom. They are an efficient replacement for outmoded lightships and can provide improved marking for sea lanes."

General Dynamics has built one ocean navigation station for the United States Coast Guard and two ocean data stations for the Office of Naval Research (ONR). The Coast Guard ocean navigation station, Two Alpha, has been in operation for a year off Sandy Hook, N. J., at the approach to New York Harbor where it replaced Scotland lightship. All systems, including a 5,000 candlepower light visible 10 miles in clear weather, a fog horn audible for a distance of two miles and a radio beacon with 35-mile range, have operated satisfactorily even during severe icing and sub-zero temperatures this past winter. In addition to duty as a navigation aid, Two Alpha has recently been equipped to gather oceanographic and meteorological data.

The two ocean data stations built for ONR — Alpha and Bravo — have undergone extensive testing in both the Atlantic and Pacific. They have demonstrated their ability to monitor oceanographic and meteorological data and to transmit it long distances to shore-based stations. Alpha was stationed in the Pacific in 1967 for seven and one-half months during which it accomplished long-range data transmissions up to 2,500 miles. Both ONR buoys are now being fitted for scientific experiment in the North Pacific this fall.

They will monitor a number of phenomena, including surface wind speed and direction, and telemeter data to shore-based scientists.



"Wow! Did I have a weekend!"

PEYTON ELECTED TO ISAM OFFICE

G. L. Peyton of Convair Dept. 520-1 was recently elected executive vice president of the International Society for Advancement of Management at the society's annual meeting in Washington, D. C.

New 10 Per Cent Surcharge Goes Into Effect This Month

The new 10 per cent surcharge on individual income tax withholding rates is now in effect.

President Johnson recently signed into law the Revenue and Expenditure Control Act of 1968. The law is retroactive to April 1, 1968 and will be in effect to July 1, 1969.

The surcharge will thus apply for only nine months in 1968 and six months in 1969. Employes paying taxes on a calendar-year basis will actually pay 7.5 per cent more in taxes in 1968 and five per cent more in 1969.

Some employes will be underwithheld in 1968 and find that they owe more taxes than anticipated when they file their return on April 15, 1969.

Since the law was passed later than anticipated no additional taxes were withheld between April 1 and mid-July.

The new withholding tax tables shown below will be used to determine future taxes withheld.

1968-1969 Federal Withholding Tax Tables — Including 10% Surcharge

WEEKLY PAYROLL

SINGLE PERSON — Including Head of Household

If the amount of wages (in excess of $13.50 times the number of exemptions) is . . .			The amount of income tax to be withheld is . . .
Not Over $4			0
Over	But Not Over		
$ 4	$ 13		14% of excess over $4
$ 13	$ 23		$ 1.26 plus 15% of excess over $13
$ 23	$ 85		$ 2.76 plus 19% of excess over $23
$ 85	$169		$14.54 plus 22% of excess over $85
$169	$212		$33.02 plus 28% of excess over $169
$212			$45.06 plus 33% of excess over $212

MARRIED PERSON

If the amount of wages (in excess of $13.50 times the number of exemptions) is . . .			The amount of income tax to be withheld is . . .
Not Over $4			0
Over	But Not Over		
$ 4	$ 23		14% of excess over $4
$ 23	$ 58		$ 2.66 plus 15% of excess over $23
$ 58	$169		$ 7.91 plus 19% of excess over $58
$169	$340		$29.00 plus 22% of excess over $169
$340	$423		$66.62 plus 28% of excess over $340
$423			$89.86 plus 33% of excess over $423

BI-WEEKLY PAYROLL

SINGLE PERSON

If the amount of wages (in excess of $26.90 times the number of exemptions) is . . .			The amount of tax to be withheld is . . .
Not Over $8			0
Over	But Not Over		
$ 8	$ 27		14% of excess over $8
$ 27	$ 46		$ 2.66 plus 15% of excess over $27
$ 46	$169		$ 5.51 plus 19% of excess over $46
$169	$338		$28.88 plus 22% of excess over $169
$338	$423		$66.06 plus 28% of excess over $338
$423			$89.86 plus 33% of excess over $423

MARRIED PERSON

If the amount of wages (in excess of $26.90 times the number of exemptions) is . . .			The amount of tax to be withheld is . . .
Not Over $8			0
Over	But Not Over		
$ 8	$ 46		14% of excess over $8
$ 46	$115		$ 5.32 plus 15% of excess over $46
$115	$338		$15.67 plus 19% of excess over $115
$338	$681		$58.04 plus 22% of excess over $338
$681	$846		$133.50 plus 28% of excess over $681
$846			$179.70 plus 33% of excess over $846

Roger Lewis Among Speakers Slated at NMA Convention

Several top speakers — including Roger Lewis, General Dynamics president and board chairman — have been announced for the 1968 National Management Association convention.

The event will be held at Hotel Texas in Fort Worth Oct. 22-24.

Lewis' speech, "Social Responsibilities of Management," will be made at the concluding convention banquet Oct. 24.

At the banquet, Lynn A. Townsend, chairman of the board of Chrysler Corp., will receive NMA's Man-of-the-Year award.

Among the other main speakers are:

Dr. John Dearden, professor of business administration, Harvard University Graduate School; Dr. Donald G. Marquis, professor, Massachusetts Institute of Technology; Dr. Robert J. Jastrow, director, Goddard Institute for Space Studies; Dr. Stephen H. Fuller, dean, Graduate School of Business Administration, Harvard University; Robert B. Wyland, vice president, the Marquardt Corp.; and David W. Ross, David W. Ross Associates.

Milton Friedman, professor of economics at the University of Chicago and columnist for Newsweek magazine, will be honored as "free enterprise writer of the year."

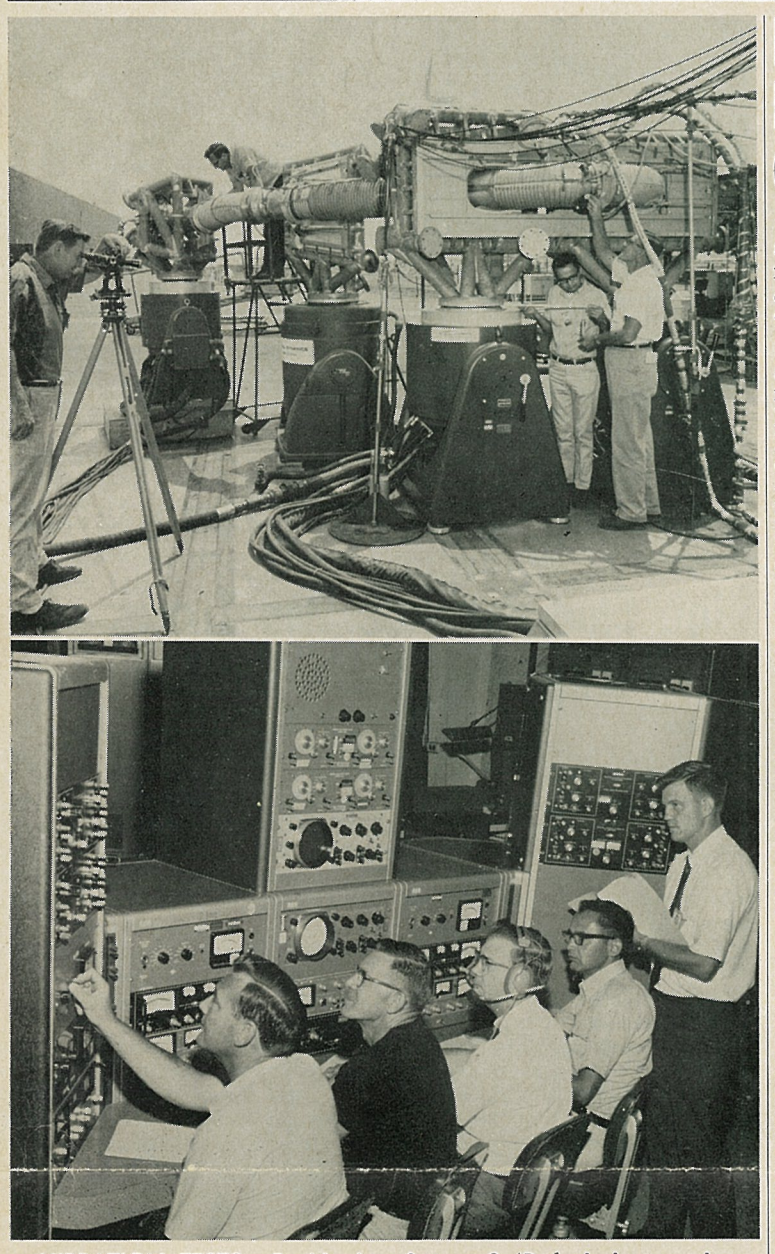
Two GD Men Elected Technical Advisers

Two General Dynamics men have been elected to membership in the manufacturing technology advisory group of the Aerospace Industries Association meeting in Atlanta, Ga. They are James C. Starnes, Fort Worth division supervisor in applied manufacturing research and development, and Roger J. Hommer, traffic department general foreman, also at Fort Worth.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 16 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, July 31, 1968



VIBRATION TESTS—Positioning Saturn S-4B fuel duct on large vibration "shakers" for tests at Convair's Kearny Mesa plant, in top photo, from left, are Don Tibbs, Bob Roark, Tony Martinez and Bill Boyd. Operating test console in lower photo, from left, are Roark, Boyd, Arlan Barber and Martinez as Don Nirschl, test conductor, looks on at right.

Severe Case of Shakes

Fuel Duct For Saturn Gets Rough Treatment

The largest multiple-shaker vibration test in Convair division's history was completed recently at the KM plant by Convair and McDonnell Douglas personnel.

Four large "shaker tables" were positioned outside the vibration lab for running the critical verification tests on a large vacuum - jacketed low - pressure fuel duct for use on the McDonnell Douglas S-4B stage of the giant Saturn launch vehicle.

The shakers were connected to test consoles inside the test lab and 355,000 watts of power amplification used in providing 49,000 pounds of force.

A cryogenic liquid was pumped through the duct, which will connect the S-4B's fuel tank and engine inlet, as it was subjected to a range of vibrations representative of conditions encountered during launch.

Three complete "vibration systems" were used with 27 accelerometers to measure vibration levels for tape and chart recorders.

Gordon L. Kugler, lead engineer for environmental test labs, said the tests were completed satisfactorily with no leaks or fractures detected.

The tests were under the overall supervision of George Conrey, group engineer for electrical and vibration labs.

Don Nirschl, Dept. 578-5 senior test engineer, was in charge of test operations with Bruce Ganoe of Dept. 578-1 as lead engineer, Joe Rogers of Dept. 756-0 as foreman for test technicians and Don Tibbs of Dept. 756-0 as lead technician. Dept. 250 personnel assisted.

James Douglas, son of one of the founders of Douglas Aircraft Co., supervised eight McDonnell Douglas representatives assisting.

The large duct will be used later in a "hot firing" of the S-4B. A 10-inch fill-and-drain valve and other smaller components related to the system also were undergoing qualification tests at Convair's liquid hydrogen test site "B" at Sycamore Canyon.

Robert Swanson, Convair program manager for McDonnell Douglas Saturn S-4B test programs, said the tests were part of an extensive program that Convair has been performing for McDonnell Douglas for several months under contracts totaling more than $1½ million.

Short Term Rentals Needed, Call Ext. 1931

Short-term (30 to 90 days) rental apartments or houses are urgently needed for Fort Worth division engineers temporarily assigned to Convair.

General Dynamics employes knowing of suitable rentals are urged to telephone Lou Braun, employe services, LF ext. 1931.

Data Returned From Space by OV1 Satellites

Orbital Vehicle One (OV1) satellites 15 and 16 were successfully launched July 11 from Vandenberg AFB by Atlas booster 75-F.

L. E. Ottem, Convair OV1 program manager, said OV1-15, carrying nine Air Force Cambridge Research Laboratory and Air Force Space and Missile Systems Organization-Aerospace Corp. experiments and additional special support equipment in 45 "boxes," is the "most sophisticated spacecraft in the OV1 series."

OV1-15 is using a dual telemetry system for return of data from solar pertubation and atmospheric density experiments. It is spin stabilized, has an apogee of 980 nautical miles, a perigee of 85 nautical miles and is orbiting the earth initially every 104.8 minutes.

Two large coils, reacting to the earth's magnetic field when energized, are being used in maintaining the OV1-15's spin axis within required limits.

Precise knowledge of the satellite's "attitude" in relation to the orbital plane, required for determining proper control commands, is provided through two sets of sensor plates that are offset from the spacecraft at equal but opposite angles and that sense differences in ion impingement. This unique system was developed by the Air Force for use in the Gemini program.

OV1-16, a 24 - inch - diameter sphere provided as government-furnished equipment, is carrying instruments for measurement of time and space variations of atmospheric density and to determine aerodynamic drag.

It has an apogee of 305 nautical miles, a perigee of 80 nautical miles and an initial orbital period of 91.8 minutes.

Because of low-level perigee requirements, the OV1-15 and 16 satellites "coasted down" from the Atlas booster's ballistic apogee to desired altitude before being fired into orbit by rocket motors in their propulsion modules.

"This eliminated necessity for costly trajectory development and modification of the Atlas' guidance system," Ottem pointed out.

The OV1-15 satellite and its propulsion module weighed 1,344 pounds and the OV1-16 and its

(Continued on Page 2)

Medlock to Address Industry-Education Council Conference

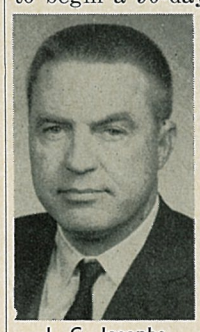
L. I. Medlock, director of reliability control for Convair division, will give a "pace setter" presentation Aug. 7 at the opening session of a three-day Southern California Industry-Education Council conference for 120 leading industrialists and educators at the University of California Conference Center at Lake Arrowhead, Calif.

Medlock, who also serves as national vice president of the American Society for Quality Control (ASQC), will discuss "Compensatory education for quality control and the relationship of quality to industry, education and the community."

C. F. Horne, president of the Pomona division, is chairman of the board of directors of the Southern California Industry-Education Council. C. F. McMenamy of Convair is council vice president.

90-Day Study Funded For New Navy Jet

Convair division is one of five manufacturers awarded contracts to begin a 90-day contract difinition study for a new Navy jet interceptor designated the VFX-1,



L. C. Josephs

Contract, awarded by Naval Air Systems Command is valued at $3 million.

Other contractors are: Grumman Aircraft, Bethpage, N.Y.; LTV Aerospace Corp., Dallas; North American Rockwell Corp., El Segundo, Calif.; and McDonnell Douglas Corp., St. Louis.

Jack L. Bowers, Convair general manager, has named Lyman C. Josephs program director for the study.

The group reporting to Josephs include M. C. Curtis and D. L. Dudas who will serve as special consultants. Testing will be directed by H. K. Cheney; plans and control, D. P. Wright; integrated logistics system, C. W. Johnston; materials and subcontracts, G. W. Zahrte; operations, N. R. Keough; quality, D. R. Archibald; engineering, J. A. Brown.

Brown will be assisted in the engineering task by: A. B. Cox, systems engineering; D. J. Jones, technical; E. W. Snowden, air vehicle design; B. D. Kowalsky, systems analysis; W. E. Cantrell, avionics; R. V. Shields, reliability, maintainability and safety; J. F. Hill and M. R. Yunck, carrier suitability.

Selection of a contractor to build the interceptor is expected early next year.

Josephs joined Convair division in 1967 as director of advanced systems. He directed a joint Convair/Canadair proposal for CA-RA, a twin-engine tilt-wing V/STOL airplane based on the Canadair CL-84 prototype.

A graduate of Harvard, 1941, Josephs attended Harvard Graduate School of Engineering in 1941-42 prior to receiving a commission in the Navy in 1942. He served in the Navy Bureau of Aeronautics until 1946, then joined Chance Vought Aircraft as assistant project engineer for the XF7U-1. Appointed project engineer on the XF8U-1 in 1952, he directed the airplane's development from preliminary design through fleet introduction.

Josephs was with Martin Marietta Baltimore division as director of aircraft development and modification for two years prior to joining Convair.

Forty New Hires Taking Training At KM as Electronics Assemblers

A 16-week classroom and "on the job" training program has been instituted at Convair division's KM plant to train 40 new employes as electronics assemblers.

The first of four classes scheduled to enter the program at weekly intervals began "on the job" training in electronics manufacturing areas last week after completion of a week of class instruction in soldering, blueprint reading and work with crimp and poke-home connectors.

W. B. Barth, general foreman for electronics manufacturing, said the training is being provided because of the critical shortage of electronics assemblers.

The new trainees will be assigned to Dept. 780-6 and will work on build-up of electrical harnesses for F-111 aerospace ground equipment.

Classroom instruction is being provided by Will Weidenfeller, Ed White and Hal Rubin of educational services Dept. 130-3. W. M. Young, Ralph Vernor and Robert Steiger, all of Dept. 780-6, are supervising the "on the job" training.



IN TRAINING—Bobbie Jean Robbins, new Convair electronics assembler trainee, practices soldering as Instructor Ed White observes.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

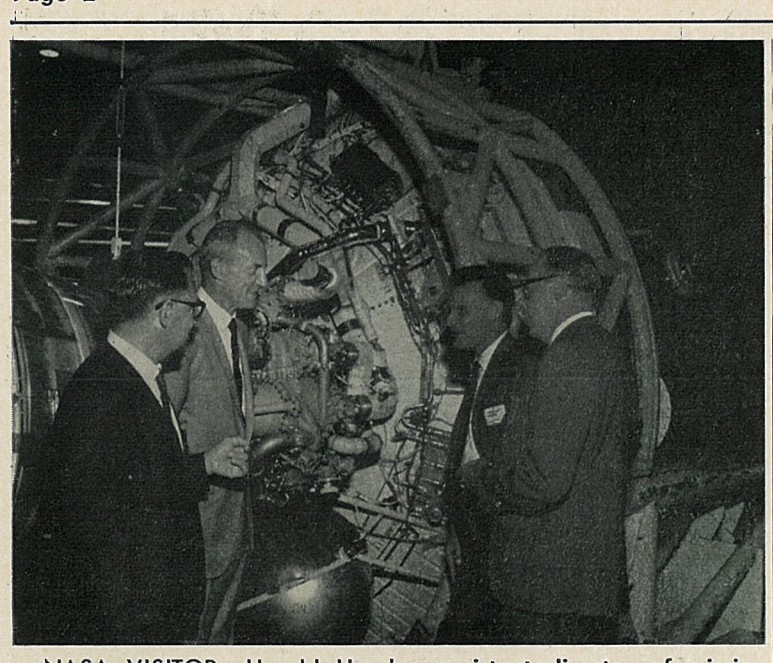
(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

★ ★ ★

Q—Both Christmas and New Years fall on Wednesday this year. Has Convair given any consideration to adjusting year-end holidays to permit a long weekend?

A—Yes. Year-end holidays this year will be Dec. 23, 24, 25 and Jan. 1.

(Continued on page 4)



NASA VISITOR—Harold Hornby, assistant director of mission analysis division of NASA's Office of Advanced Research and Technology, second from right, discusses AC-19 Centaur vehicle for Mariner Mars mission during recent visit to Convair's KM plant. Others, from left: Robert Benzwi of Centaur program office, Richard Bergan of GD-Los Angeles field office, Richard A. Clark, Convair factory manager of fabrication, assembly and checkout.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between July 16 and July 31.

Thirty-year: Dept. 002, B. L. Wolfe; 031, C. E. Hall; 056, G. D. Clark.

Twenty-five-year: Dept. 031, E. B. Kerfeld; 059, P. Juarez; 143, E. E. Chavez; 300, C. L. Nored Jr.; 400, Alice D. Catron; 401, D. O. Riseley; 733, C. W. Maxfield; 953, J. W. Kieff; 985, T. Funaro.

Twenty-year: Dept. 019, J. Gooden; 027, E. Ruiz; 195, J. J. Shults; 250, Carra A. Wallace; 761, M. F. Castro; 780, Dorothy P. Hurdlow; 840, C. G. Jerome.

Fifteen-year: Dept. 019, Stelma R. Hayes; 027, W. L. Worthington; 059, F. W. Walter; 110, Rita M. Tambornino; 130, Georgette L. Horton; 140, Mary M. Warren; 195, Ada J. Krieger; 250, H. E. Lero, P. O. Jones; 401, D. V. Fleming; 420, Mary K. Christianson; 453, L. E. Bellair; 460, S. Kelley; 580, M. Kantor; 589, F. J. Michael; 731, H. C. Leoncini; 732, E. C. Felix; 733, Johnie W. Blankenship; 832, R. A. Izzarelli, Clarice Maving; 834, A. J. Seifert; 835, L. Parrish Jr.; 843, E. C. Steeger; 953, J. K. Bishop; 954, N. D. York.

Ten-year: Dept. 001, D. Arena; 056, Mary E. Florence; 059, M. E. Williams; 101, Sharron L. Newton; 130, C. H. Butt; 191, Kathleen E. Kelly; 199, R. F. Donnelly; 202, N. A. Smith Jr.; 250, B. L. Nash; 454, G. Hamilton; 460, V. W. Whallow; 515, W. E. Ketchum, P. A. Sisneros; 518, Minnie S. Gabbard, Veda M. Hogue; 519, A. R. Garder; 531, G. E. Pinkel; 533, J. K. Lessig; 561, W. E. Willcutt; 566, W. W. Craft; 780, Kitty K. Carr, H. R. Cunningham, Maxine M. Giertz; R. W. Harris Jr., Evelyn E. Wire; 835, E. Johnson; 979, R. E. Carter, E. J. Corby, B. R. Goode, W. A. Myers, T. L. Wetzel; 988, J. A. Burkhardt Jr., W. W. Deane Jr.

ELECTRONICS

Fifteen-year: Dept. 422, L. E. Tescher.

Awards

CONVAIR

Employe Suggestion awards approved for the week ending July 12.

Dept. 016, M. V. Archibeque, $15.00; 001, J. A. Boucher, $15.00; 250, J. G. Brown, $15.00; 149, L. A. Brugger, $51.30; 144, L. E. Campbell Jr., $57.00; 002, E. Fountain, $15.00; 143, V. M. Frankfather, $69.20; 015, D. Frazee, $7.50; 250, R. F. Graham, $15.00; 016, T. Hirasaki, $15.70; 780, G. Johnston, $15.00; 100, B. A. Jones, $44.30; 780, M. J. Kriens, $55.30; T. J. Marcella, $87.50; 016, A. V. Minor, $15.00; 142, R. E. Musterait, $15.00; 195, D. D. Nicklaus, $15.00; 400, H. G. Peltier, $228.50; 141, R. K. Pierce, $121.40; 015, A. Reiter, $22.80 (two awards); 002, T. A. Roach, $15.00; 780, W. F. Strickland, $196.20.

Employe Suggestion awards approved for the week ending July 19.

Dept. 454, R. D. Arave, $15.00; 015, H. A. Crane, $289.80; 526, B. L. Dower, $15.00; 400, G. W. Durkee, $45.00; 250, J. A. Feusi, $33.00; 002, H. Frein, $702.20; 835, J. G. Gonzales, $311.20; 059, J. P. Grimsley, $65.40; 572, J. Hertz, $15.00; 031, L. Hudson, $15.00; 250, C. E. Johnson, $15.00; 142, L. E. Johnson, $19.85; 059, B. W. Jones, $165.80 (three awards); 518, F. M. Lingard, $35.50; 507, E. V. Marikle Jr., $74.90; 193, A. E. O'Brien, $15.00; 250, J. S. Poschman, $15.00; 953, A. N. Quintard, $15.00; 250, L. J. Renz, $15.00; 519, R. H. Ries, $15.00; 146, D. W. Rokos, $677.40; 142, H. R. Simons, $19.85; 141, G. J. Williams, $15.00.

General Dynamics News

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Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Invention Disclosures

CONVAIR

MACHADO—F. Jr., Dept. 597, U. HAMMER, Dept. 586. Method of Enhancing a Target for Electromagnetic Radiation, Optical, Radar Detection and the Like.

HURLICH—A., Dept. 572. Explosive Bonding of Metal Matrix Composite Materials.

KETCHUM—W. J., E. J. HUJSAK, Dept. 952. Large Monopropellant Rocket Motor Concept—"Cannular Bed."

CURRIDEN—E. H., H. D. DAVIS, Dept. 962. Smoke Visibility Shield for Helicopters.

O'BARR—G. L., Dept. 572. Three-Dimensional Viewing System (3-DVS).

Retirements

CONVAIR

ADAMS—Elmer R., Dept. 401-5. Seniority date Nov. 11, 1966, retired July 5.

ANDERSON—Kenneth H., Dept. 045-0. Seniority date Aug. 28, 1940, retired July 12.

DONE—William J., Dept. 410. Seniority date Aug. 14, 1953, retired July 30.

HENDRICKS—Teresa M., Dept. 019-0. Seniority date Sept. 4, 1951, retired June 28.

RUMBLE—Dorothy S., Dept. 954-3. Seniority date July 18, 1962, retired June 21.

VAN HORN—William F., Dept. 780-2. Seniority date Sept. 21, 1953, retired July 19.

Rider-Driver

RIDE WANTED—From N. Mollison, El Cajon to Plant 19, 3:30 to midnight shift. Phone Roy King, ext. 2041 or 2051, or (home) 447-1162.

RIDE WANTED—From Nile and Thorn Sts., North Park to Kearny Mesa. 4:30 p.m. to 1 a.m. shift. Phone Si Messer, ext. 2220 KM or (home) 282-5787.

Personals

CONVAIR

I wish to thank my Convair friends for their kind expressions of sympathy upon the death of my beloved wife, Leona.

N. R. Eldridge, Dept. 031

We wish to express our sincere appreciation to all our friends at Convair for their kind expressions of sympathy upon the death of our husband and father Tom Eastin, Dept. 015.

Edna Eastin and family

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Monday, Aug. 5 and Aug. 12, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 491, Bldg. 14 auditorium, Tuesday, Aug. 13, 8 a.m., for first shift; today, July 31, 4:30 p.m. for second shift.

AF Plant 19: ext. 491 LF, Bldg. 3, 1st mezz., Col. C-18, Class Room 2, Tuesday, Aug. 6, 8 a.m., for first shift; Wednesday, Aug. 7, 4:30 p.m., for second shift.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF-STUDY — A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educatinonal services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Selected Students Briefed on Division

Eighteen selected high school students were guests of Convair division July 23, 24 and 25—six on each of the three days—for a presentation on the division's business operations and products and a tour of the Kearny Mesa plant.

The students are participating in a pilot summer program, sponsored by the San Diego Unified School District and the San Diego Chamber of Commerce, to give them a better understanding of the American free enterprise system.

Annual Sports Night, Picnic Slated Aug. 15

Convair Management Club's annual sports night and family picnic will be held Aug. 15 at San Diego Stadium.

Tickets, covering the picnic dinner and the game between the San Diego Padres and Denver Bears, are now on sale through club boosters at $2.50 for adults and $1.50 for children 12 and under. Reserved area parking will be an additional 50 cents (half usual price).

Ten serving lines will be set up inside the stadium entrance for the catered dinner of barbecue beef and ham, baked halibut, beans, potato salad, cole slaw, soft drinks, beer and ice cream. Serving area will be adjacent to the reserved parking area.

The picnic dinner will be served beginning at 5 p.m., drawings are scheduled for children at 6:30 p.m. and adults at 6:45 p.m. The baseball game begins at 8.

Sports personalities expected include broadcasters Lyle Bond and Al Couppee and players from the Padres, Chargers, Aztecs, Rockets, Gulls and Toros teams.

Free raffle prizes for children will include autographed baseballs, footballs and bats and Charger dolls, baseball caps, checker and ping pong sets, batons, team pictures and other novelties.

Adult raffle prizes will include airline round trips for two to Mexico City and Acapulco, Merida and Yucatan, San Francisco, and Puerta Vallerta or Mulege. Also given will be accommodations for two for three days and two nights at three different Las Vegas hotels and season tickets for two to basketball, hockey, soccer and football games.

Material department is sponsoring the sports night and picnic. Planning committee members are G. W. Zahrte (chairman), Art Ratz, George Cowan, Frank Lucas, Tom Gardiner, A. J. Deane, Don Berhow, Warren Jones, J. M. Rogers, Bob Patterson, Ray Lange and Ed Messer.

Club boosters will have tickets through Aug. 9. Any remaining will be sold on a "first come-first served" basis in material procurement offices at Kearny Mesa and Lindbergh Field through Aug. 14.

Data Returned From Space

(Continued from Page 1)

propulsion module 1,482 pounds.

Ottem said the two satellites were ejected about 5 min. 16 sec. after the Atlas lifted off Complex A-2 at Vandenberg. Each of the OV1's rocket motors were fired about 31 seconds to place the satellites into orbit. The satellites and their propulsion modules were separated between 18 and 20 minutes after liftoff.

The OV1 program is under the direction of the Air Force Office of Aerospace Research. Maj. Raymond Keys is OV1 program manager.

H. M. Ikerd of Dept. 506-1 was principal coordinator and A. J. Trieglaff of Dept. 543-1 was principal engineer for the OV1-15.

Savvy Japanese? Library Needs You

A request carried in GD/NEWS July 3 has resulted in the Convair technical library obtaining names of 19 division employes who can be called upon to scan or translate foreign-language technical papers.

Keith Blair, library supervisor, said translations now can be obtained as needed from papers in German, Italian, French, Spanish, Hungarian, Russian, Dutch and Chinese.

Still needed are names of personnel who can translate technical material from Japanese. Limited funds are available.



PLAN TEST PROGRAM—At meeting hosted by Convair at LF plant, plans were made for forthcoming test program involving F-102 airplanes. Seated (left) are: WO J. W. Pahel, Hq ADC; J. L. Tubbs, SAAMA; G. F. Miller Jr., Convair flight test dept.; B. F. Ferguson, F-102/106 program manager; W. S. Nader, Convair program control; S. B. Stevens, Convair F-102 project engineer; J. R. Williams, SAAMA; V. Schuchardt, SAAMA; H. J. Adams, SAAMA; D. S. Oesterle, Convair engineer; M. D. Holbrooke, Pratt & Whitney. Standing (left): D. C. Anderson, Convair flight test; Raul Saenz, SAAMA crew chief; MSgt. D. Dwyer, DCASPRO; E. Mears, DCASPRO; W. W. Huffman, Convair flight test; J. R. Trinko, DCASPRO; E. A. Lipovsky, DCASPRO; Robert Hart and G. S. Schendel, Convair field service; H. L. Wylie, Convair support contracts; and Lt. Col. F. J. McCarthy Jr., USAF director of aerospace safety.

Mgt. Club Presents Two Trucks To YMCA, Boy Scouts For Campers

Pickup trucks were presented recently by Convair Management Club to San Diego County Council of the Boy Scouts of America and the San Diego City-County YMCA.

The two trucks will be used primarily in youth camping programs of the two organizations.

Keys and "pink slips" for the vehicles were presented by Bill Chana, club president, in ceremonies at KM plant.

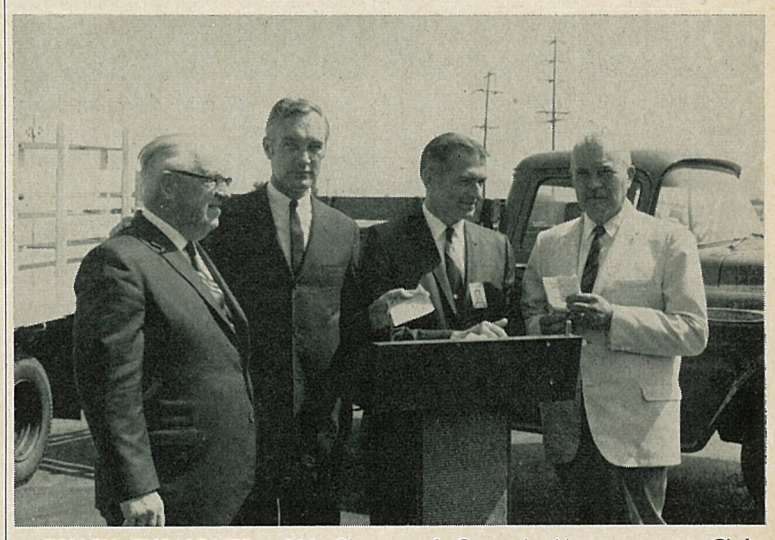
J. J. Fink accepted in behalf of the Boy Scouts council and Ray T. Blair Jr. and O. W. Todd Jr. for the YMCA.

Bill Alexander was master of ceremonies for the truck presentation ceremony and Wayne Crow, club truck committee chairman, made introductory remarks.

Others assisting on the project were R. F. Kropidlowski, Jim Greenwald, Ray Lange, John Speed, Art Braidic, Earl Riley, Ray Kalanquin, Bob Blair, Len Parker, Vic Distad, Larry Potter, Barney Herman, J. L. Petit, Andy Pond and Gerry Starkey.

Jess Cook, first vice president of the club, served as adviser.

The trucks were purchased by the club from Convair surplus sales and were repaired, cleaned and painted by members.



TRUCK TURNOVER—Bill Chana of Convair Management Club, second from right, presents renovated pickup trucks to YMCA and Boy Scout officials. Accepting, from left, were O. W. Todd Jr. and Ray Blair Jr. for YMCA and J. J. Fink for Boy Scouts.



BOARD VIEW—Convair Management Club board is scheduling meetings alternately at Kearny Mesa and Lindbergh Field plants. Present at first meeting at Lindbergh Field, left to right, were Jerry Christ, youth activities; George Cowan, community activities; Dick Peck, legal counsel; Herb Day, second vice president; Art Braidic, public relations; Jim Wills, financial secretary; Bill Chana, president; Jess Cook, first vice president; Ad Mosco, past president; Chuck Simmons, recording secretary; Gene Divine, treasurer; Bob Chambers, technical tours. Not present for picture were Walt Hicks, personal development; Terry Kell, awards; Bob Ames, boosters and membership; Roy Woodle, programs; Lyle Wood, advanced planning; Wes Magnuson, national director; Bob Mitchell, area council representative.



HARD WAY—Team of C. J. Jameson, left, and T. H. Tennant recently completed two-years engineering executive program at UCLA although Jameson, plant manager of General Dynamics Navajo Facility, was 750 miles from campus. Tennant, Pomona division missile systems dynamics section head, taped class sessions for Jameson.

Obstacle Course

Teamwork Beats Geography As Two Earn UCLA Degrees

T. H. Tennant, Pomona division missile systems dynamics section head, and C. J. Jameson, plant manager of the General Dynamics Navajo Facility, recently completed the two-year engineering executive program at University of California at Los Angeles and received masters degrees in engineering at commencement exercises last month.

While Tennant and Jameson were not the first Pomona division men to complete the program (seven others accomplished the feat in past years), their manner of operation was unique and a demonstration of problem solving through teamwork.

Formal classes each year are held on campus at Los Angeles one day a week during the fall, winter and spring quarters. In addition, there are individual research assignments and class projects undertaken during the second year.

The first year was relatively routine. But just prior to the second year, Jameson moved to Fort Defiance, Ariz., 750 miles from the UCLA campus.

During the next year, Jameson probably set some sort of record by commuting to classes at UCLA. He made the 1,500-mile round trip at least every other week. His estimate is 33,000 miles of travel to and from classes via the Santa Fe Super Chief.

"By taking the train, I could travel each way overnight and use the time for needed study and sleep," Jameson said. "Pomona people were kind enough to make transportation available from the depot to UCLA and return. This arrangement allowed the trips to combine business with education."

But the biggest helping hand was extended to Jameson by Tennant. All formal class sessions missed by Jameson were taped by Tennant and the tapes mailed to Fort Defiance.

"My second year in the program would not have been possible without Terry's help," Jameson emphasized.

An additional problem was availability of research material at his Fort Defiance location on the Navajo Indian Reservation. "The librarian at Gallup, N. M., was of great help and ordered much material I needed from the University of Arizona," Jameson explained. "I also made a few trips to Phoenix (some 300 miles) in search of information."

C. W. Doyle Selected For High SAVE Honor

C. W. Doyle, Fort Worth division cost reduction and value control administrator, has received Society of American Value Engineer's first Honorary Member Award.

Doyle earned the award for his "pattern-setting developments in Value Engineering."

Laser, Optics Lab Produces System Of Photographing Shock Waves

Convair's high speed wind tunnel soon will be equipped with a new and greatly improved system for photographing air flow shock waves radiating from models undergoing tests.

The laser and optics lab (Dept. 596-0) at Kearny Mesa was responsible for producing two giant mirrors and other high-precision optical lenses, mirrors and filters for the Schlieren color photography system.

The system will pass collimated (straight-line) light through the wind tunnel and select, for photographic recording, rays that have been bent, to show the Mach number of shock waves.

Ed Yager, instrumentation group engineer for the high-speed tunnel, said the new optical system, in addition to its color capability, will provide greater sensitivity and clearer picture resolution than the current system which utilizes diffused light.

"The concept is so different it is difficult to make a comparison," he said.

Production of optics for the new system, scheduled for installation next month, has been under the direction of Loren C. Wilson, a Dept. 596-0 senior design engineer, with Charles Baker, a development test engineer, as optician. Gus DeMos, a Dept. 756-0 instrumentation machinist, assisted with machining and coating operations.

Largest optical elements are 24-inch-diameter paraboloid and flat-surface mirrors on 180-pound low-expansion glass blanks that were purchased in Germany.

A diamond-impregnated wheel was used on a curve generator in the optics lab to facet a glass grinding tool and each of the large glass blanks were shaped, ground and polished to tolerances of less than 1½-millionths-inch. A liquid iron oxide compound was used for finish polishing.

Ion glow-discharge cleaning and application of the aluminum and silicon monoxide "mirror" surface to each of the glass blanks was performed in a vacuum chamber in one of the space science labs at KM.

A xenon light source, slit mechanism, division mirror, relay lens, diagonal mirror, knife edge, color cutoff filter, microscopes and TV and 70-mm cameras complete the system.

Part of the tiny beam of diffused light passing through the slit mechanism will be reflected by the division mirror, pass through the relay lens and be reflected by the small diagonal mirror to the 24-inch paraboloid mirror, which will reflect it as collimated light through the wind tunnel.

The light, as it passes back through the system and is diverted by the division mirror to the cameras, will show the image of the model under test and the angles of "shock waves" eminating from its surfaces.

The color cutoff filter, comprised of colored glass segments ground and polished to .010 to .030-inch widths, will show Mach angles produced in the supersonic air stream in different colors.

Shock waves are seen as straight vertical lines at Mach 1 (the speed of sound) and at known angles at higher Mach numbers.

The high-speed wind tunnel is being operated on a 24-hour-a-day basis and is used to subject a variety of aircraft, spacecraft and related models to speeds of up to Mach 5.



MIRROR MAKING—Optics for new Schlieren photo system for Convair high speed wind tunnel were built by laser and optics lab. In top photo, Loren Wilson checks electrode used in vacuum chamber for coating mirror. Below, Charles Baker checks flat surface mirror.



OUTLOOK—Corporate executives met with key men of Electronics Group (Stromberg-Carlson, Electronics division, Stromberg Datagraphics) at Rochester in June for another General Dynamics long-range-planning meeting.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

GORDON E. SYLVESTER (1940) from Pomona to Fort Worth division as director of plant engineering and facilities; **JOHN J. KELLY JR.** (1948) from Convair to Pomona as manager of administrative system analysis; **ROBERT A. JONES** (1967) from Stromberg-Carlson, Rochester to Quincy; **KENNETH S. TELFER** (1956) from Convair to Fort Worth; **JOHN P. RYAN** (1956) from Convair to Fort Worth (Edwards AFB); **ROBERT J. BARONE** (1967) from Electric Boat to Corporate Headquarters as financial analyst; **HARRY L. ADDIS** (1950) from Convair to Fort Worth; **GEORGE M. LOUDERMILK** (1949) from Convair to Fort Worth in special parts manufacturing; **C. C. CLICKNER** from Electronics (Newark Operations) to Electronics (San Diego Operations); **JAMES W. BALL** (1950) from Convair to senior reliability engineer, Pomona; **JAMES F. GOOD** (1936) from Convair to Fort Worth; **CHARLES A. STEWART** (1950) from Convair to Fort Worth (Waco facility); **EMIL E. FRANKE** (1949) from Convair to Stromberg Datagraphics as senior quality control engineer; **JOSEPH J. CINDRICH** (1964) from Convair to Fort Worth; **WALTER L. JOHNSON** (1957) from Convair to Quincy; **ROBERT L. HARRELL JR.** (1950) from Convair to Stromberg Datagraphics as senior program control analyst; **C. R. WALKER JR.** (1944) from Electronics-SD to Quincy.



GRADUATING CLASS—D. C. Prim, manager of Electronics, San Diego Operations, congratulates the first class receiving diplomas for course on Computer Aided Circuit Design Techniques, taught by Dr. J. V. J. Ravenis, manager of advanced studies. Standing (left) are: M. R. Arnold, R. A. Grygar, J. Boelens, D. F. DeKold, M. Ishihara, Ravenis and Prim. Seated (left) are J. Doyle, M. K. Rhee, R. Bergeron, V. R. Hampsten and C. J. Ingram Jr.



FOR PERFORMANCE—Don C. Prim, Electronics-SD general manager, poses with members of Doppler 6868 electrical assembly group, winner of Zero Defects award for second quarter of 1968. Standing (left) are G. G. Prentice, manager of operations; R. H. Nicholson, manager of quality control; Prim and Lyle Hurst, foreman. In front row at left is Lloyd Moran, general foreman, and at right is W. J. Hemmer, manager of manufacturing operations and Clyde Hooper, inspection supervisor.

Electronics-SD Doppler Group Wins Second Quarter ZD Award

R. H. Nicholson, manager of quality control for Electronics-SD announced that the Doppler 6868 electrical group has won the Zero Defects banner for the second quarter of 1968.

General Manager Don C. Prim congratulated employes in the group for their performance in a brief ceremony. Candy and cigars were presented to the group.

"Defect-free performance is vitally important to the maintenance of on-time delivery schedules, as well as keeping our customers satisfied," he said. "Your significant improvement in reducing defects has contributed greatly to the company's efforts."

During the past quarter the group has reduced defects from 11 to 6 per 100 man-hours worked. This is a 45.5 per cent improvement.

The group assembles the Doppler Radar Test Set used on the F-111A. Lyle Hurst is group foreman.

Convair Men Active In Inventory Society

Three Convair division employes have been installed as officers of the San Diego century chapter of the American Production and Inventory Control Society. Roy O. Eastberg is treasurer and A. B. Mercer and F. J. Parker are both two-year board of control members for the organization.

IBARRA ATTENDS SCOUT CONFERENCE

J. M. Ibarra Jr. of Convair's Dept. 193-3 recently attended a Boy Scouts' district administration conference at Philmont Scout Ranch, Cimarron, N.M.



CRAFTSMEN HONORED—Don C. Prim (right), manager of Electronics-SD, and R. H. Nicholson (left), manager of quality control, congratulate semiannual Craftsmanship Award winners (from left) J. E. Slean, G. A. Herlich, Helen Drake, Helen Cupp, Lois Corbett, Ivy Oliver and Donna Galvin.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Continued from Page 1)

Q—Does the privilege of Convair group insurance end at retirement?

A—Employes taking normal retirement at age 65 may elect to continue Convair insurance. At that time, for the cost of $17.82 per month, you can obtain a supplement to Medicare.

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Q—Would it be possible to water the CRA children's playground area in the evening rather than the morning? Many mothers like to bring their children to the playground in the forenoon, but the grass and equipment are too wet.

A—Thanks for bringing this up. The watering program has been rescheduled to early evening so that the playground will be dry for forenoon and afternoon use.

Spares Provisioning Provided For New Owners of Convairs

Both old and new owners of Convair aircraft continue to report great satisfaction with performance, John "Scotty" Doig, manager of support contracts, Dept. 113-0, reported upon return from a month-long, eight-country "customer relations" and spares sales tour of Europe.

"Sale of Convair airplanes between airlines make it necessary to keep in close touch with new operators," he said. "They usually are not familiar with the airplane nor with spare parts necessary to keep the planes flying. We try to help them plan spares provisioning before problems arise.

Recent sales of Convair airplanes in Europe have included Lufthansa's sale of four 440s to Air Algerie (**GD/NEWS, July 17, 1968**), one 440 sold to SATA by Swissair, and three 990s sold by American Air Lines to Internord in Copenhagen.

Doig met with SATA and Swissair in Geneva, with Lufthansa and Air Algerie in Hamburg, Jugoslovenski in Belgrade, Martins Air Charter in Amsterdam and with Internord in Copenhagen.

He was assisted in meetings with Lufthansa and Air Algerie by Ted Laven, Convair manager of European sales.

Doig also visited SAS in Oslo, and met with Rolls Royce and Rotol officials in England and Scotland.

Doig said that he was able to aid new operators in inter-country export-import problems involving spares purchases, and to set up spares provisioning programs that would ensure availability of most-needed parts.

CIRCUIT ANALYSIS COURSES CONDUCTED BY ELECTRONICS-SD

The engineering department of Electronics-SD has initiated a series of courses for in-plant training.

The first of these, given by Dr. J. V. J. Ravenis, manager of advanced studies, entitled "An Introduction to Computer-Aided Circuit Analysis Techniques," was held last month, and will be offered again in August and September due to the large amount of interest shown.

The course gives the basic theory of circuit analysis techniques and a comprehensive review of available circuit analysis computer programs.

In addition to formal class lectures, an opportunity is given to use different computer programs and to analyze a number of different circuits. Computer time is obtained in the course program to allow engineers taking the course to analyze their own circuits. Those completing the course will be fully qualified to do computer aid circuit analysis on the computer without assistance.

STUDENTS TOUR CONVAIR PLANT

Dr. Edward Aguirre and 24 students from industrial arts classes at San Diego State College visited Convair's Kearny Mesa plant July 22.

Individual, Superior Performance Recognized by Electronics-SD

Seven Electronics-SD employes have received semi-annual Electronics Craftsmanship awards for individual, superior performance during the first half of 1968, R. H. Nicholson, manager of quality control announced.

Don C. Prim, manager of San Diego operations, praised each for outstanding efforts in behalf of the division in a brief ceremony preceding luncheon at Kona Kai restaurant. Award winners received desk pen sets and silver craftsmanship pins.

Receiving awards were: Lois Corbett, statistical technician, Dept. 581; Helen Cupp, leadman, Dept. 423; Helen Drake, accounting technician, Dept. 104; Donna Galvin, secretary, Dept. 465; Ivy Oliver, financial analyst, Dept. 105; G. A. Herlich, design engineer, Dept. 613 and J. E. Slean, quality control engineer, Dept. 921.

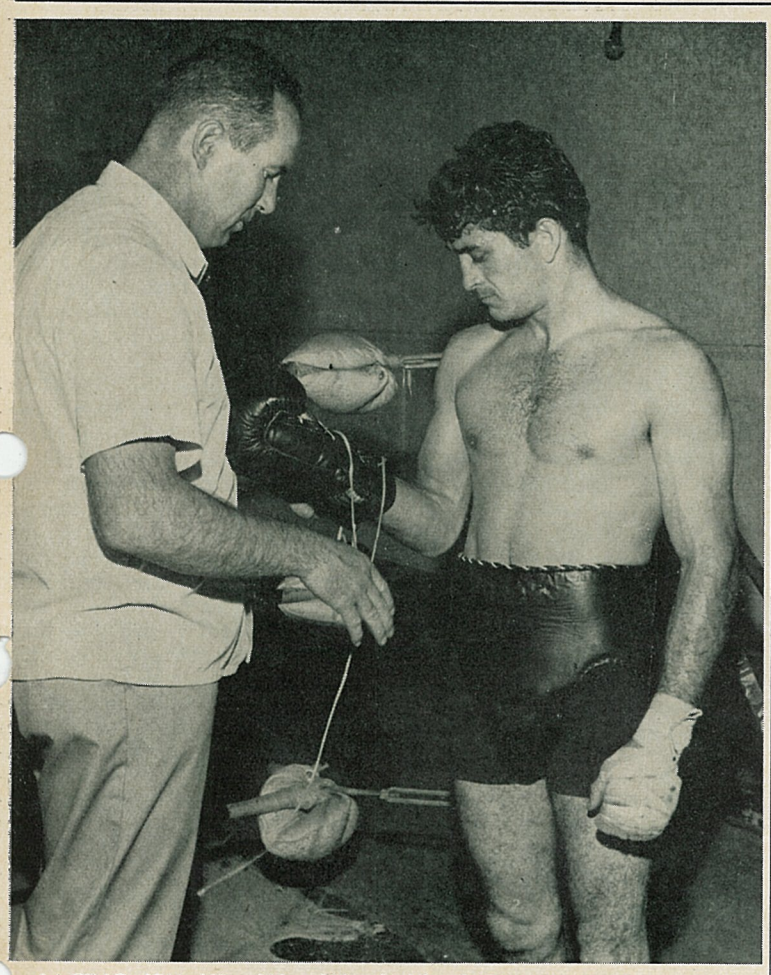
Contracts-Pricing Program Involves Rotation of Duty

Four General Dynamics men—two from Fort Worth division and one each from Quincy and Convair—have been selected for a Corporate sponsored Contracts-Pricing Management Associate Program.

They are R. A. Hodshire and G. V. Minton of Fort Worth, R. A. Waller of Quincy and T. S. Wied of Convair, selected from a number of candidates from various divisions considered for the year-long program.

Schedules have been arranged for each individual with periods of time assigned at different divisions or subsidiaries, as well as Corporate Headquarters, affording experience in various aspects of contracts and pricing as viewed under differing conditions.

Hodshire's opening assignment is at Corporate Office/San Diego, Minton's is at Corporate Headquarters, New York, Weid's at Canadair and Waller's at Electric Boat.



LACING 'EM UP—Wes Wambold of Convair is shown lacing gloves on Bobby Valdez, No. 2 ranked featherweight, before sparring session. Wambold also manages Roy DeFillipis.

A Rough Start

Chance Visit to Gym Responsible For Career as Boxer, Manager

"Want to spar a few rounds?"

It was 1948 and Wes Wambold, barely out of Navy boot camp, was paying a chance visit to a Lakehurst, N. J. gym looking for a friend. He found a boxing career instead.

Wambold, now of Convair plant engineering, had never been in the ring before but he was game.

"The first few rounds were a case of survival. However, I was in better shape than my opponent and when he tired I found revenge," Wambold recalled.

Wambold took interest in the sport, practiced and perfected his style until he was fighting the best the services offered. He fought for 12 of his 20 Navy years (holding at different times both the All Navy welterweight and light heavyweight titles) and for the last eight years he was a successful manager of Navy fighters. His battlers scored an impressive 1,023 wins with only 160 losses in this period and trophies included seven gold medals in CISM (Council International Sports Military) matches that bring together the best fighters from most of the world's military forces. In addition, Roy DeFillipis won the National AAU featherweight title for him in 1967.

After Wambold's release from the Navy, he began managing professional boxers. Currently he is the only fight manager in the world today who has, not one, but two fighters ranked in the top ten in the same weight division. Both featherweights, Bobby Valdez is ranked second and DeFillipis 10th by Ring Magazine, the "bible of the boxing world."

"Both boys will get a shot at the title before they are through," Wambold said. In fact, Valdez and Wambold just recently returned from Australia where Valdez fought Johnny Famacheon for the world title. However, he was disqualified in the 13th round for butting.

"Right now, my job here at Convair comes first," Wambold said. "However, I'll keep an eye on both boys as they train in San Diego and if they travel their trainer will be in the corner with them.

"I saw the world in the Navy and now I'm staying home."



Management Keys Will Be Included In Lecture Series

Six hour summaries of key points from some of the most popular management consultant firm seminars will be presented for supervisory employes at Lindbergh Field beginning next week.

Presentations on styles of leadership and management development techniques will be included. David Chigos of education services department 130-3 will be instructor.

Individuals may attend from 9 to 11 a.m. Tuesday, Wednesday and Thursday or from 5 to 8 p.m. Tuesday and Wednesday. The same material will be repeated each week during August. Each session will be limited to 15 employes.

"The material will be taken from seminars which, if taken through consultant firms, would require 102 hours and cost approximately $1,335 per man," Chigos said.

Phone Chigos at ext. 1932 KM for additional information or enrollment.

Tijuana Tour Set For Saturday, Aug. 3

Jim Hardison is taking his summer Spanish class on a 12-hour guided tour of Tijuana, Saturday, Aug. 3, and has invited those interested in seeing "the Tijuana the tourist never sees" to go along.

Cost is $11 per person, which includes bus transportation, admission to Jai Alai, dinner at the Club Campestre, and admission to a night club.

The bus will leave from the Ford Bldg. in Balboa Park at 12:30 p.m. Saturday. Those interested should call Jim Hardison at his home, 276-3152. A maximum of 40 persons can be accommodated.

Freda Magargal Wins Memorial

Freda Magargal, CRA Women's Golf Club commissioner, will have her name engraved on a perpetual trophy as winner of the Third Annual Ernie Paul Memorial Golf tourney. Her low gross 63 bested runners-up Mabel Humphries and Kathy Mix who finished with 69s. The trophy will be displayed in the CRA Clubhouse trophy case throughout the year.

The tournament, held at Mission Bay course, honors the founder and organizer of the ladies' golf group. Previous winners were Mabel Dunn in 1966 and Iris Oster in 1967.

Winners in monthly low net play were Margaret Clark and Marian Grenfell.

Several members of the club participated in the Western Regional National Management Club tourney late last month at Torrey Pines. Trophies went to Jeannine Letzring for low net, May Dean Schell for longest drive off the first tee and Freda Magargal who won a putting contest.

Next tournament is set for San Carlos Aug. 10 with tee off time slated for 7:35 a.m.

Toastmasters Club Installs Officers

New officers for Dynamics Toastmasters Club No. 457 were installed at a July 18 dinner meeting by Joe Rathfon, outgoing president and new Area 5 governor.

They are Herb Bickley, DCAS, president; Jack Albright, Dept. 130-1, educational vice-president; Mas Jinbo, DCAS, administrative vice-president; Irv Van Horn, Convair retiree, treasurer; Richard Freedman, Dept. 958-7, secretary; Ed Collier, Stromberg Datagraphics, sergeant-at-arms.

The club meets at 5:15 p.m. each Thursday in CRA Clubhouse. Prospective members are invited to attend or to phone Ezra Johnson, commissioner, ext. 3388 KM, or one of the officers for additional information.

ASQC Section Plans Breakfast in Hills

The San Diego section of the American Society for Quality Control has scheduled a "mountain breakfast" from 9 a.m. to noon Aug. 10, at Green Valley Falls State Park in the Cuyamaca mountains.

Tickets are 75 cents each and are on sale through ASQC boosters. Paul Gelles is chairman.

Process Engineers Elect Convair Men

Two Convair men have been elected by the local chapter of the Society of Aerospace Material and Process Engineers (SAMPE).

Julius Hertz, a design specialist in Dept. 572-1, was elected a junior national director, and Harry R. Stone, a senior materials and process engineer in Dept. 572-4, was re-elected secretary.

Garden Club Entry Wins $200 at Fair

CRA Garden Club's treasury was increased $200 when its landscape entry took the first place award and a blue ribbon at the Southern California Exposition.

The entry, in miniature, was made up of a dichondra lawn highlighted by shrubs and was designed by Bill Dickinson with the help of other club members.

Bids Being Accepted On Ford Fairlane

Bids are being accepted by Convair material sales department for sale of a 1964 Ford Fairlane, 4-door sedan. The auto may be inspected at Lindbergh Field salvage yard adjacent to Gate 5.

Forms for bids may be obtained at either Kearny Mesa or Lindbergh Field salvage offices. Bids will be opened Aug. 14, 1:30 p.m.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is Aug. 6. Call ext. 1071 LF or 3322 KM. All meetings are held in CRA Clubhouse unless otherwise noted.)

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BADMINTON — Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BICYCLE CLUB—Tijuana Ride, Aug. 10. Meet 7:30 a.m., Ford Bldg., Balboa Park.

BONAIR FLYERS—Meeting Aug. 6, 7:30 p.m.

BOWLING—Winter leagues forming. Call Jim Hayman, ext. 581 LF or CRA Clubhouse, KM ext. 1111.

BRIDGE—Play each Friday, 7:30 p.m.

CERAMICS—Meet each Tuesday and Thursday, 7-10 p.m.

CHESS—Play each Wednesday, 7 p.m.

CHORUS—Rehearsals 7:30 p.m., Mondays.

COINEERS — American Numismatic convention, Aug. 20-24, El Cortez Convention center.

DELTA DIVERS—Meeting Aug. 14, 7:30 p.m.

FENCING—Workouts and instruction Friday, 7:30-10:30 p.m.; YWCA, 10th & C Sts.

FISHING — Meeting third Tuesdays, Gillespie Field Clubhouse. Potluck 6:30 p.m.; meeting 7:30.

GARDEN CLUB—No meeting in August. Next meeting Sept. 4, 7:30 p.m., Floral Association Bldg., Balboa Park.

GOLF CLUB—Tournament Aug. 24-25, Tijuana Country Club.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Monday through Friday; 10 a.m. to 5 p.m. Saturday.

HI/FI MUSIC — Meeting Aug. 13, 7:30 p.m.

ICE SKATING — GD family skate night Thursday, 6:15-7:45 p.m., Mission Valley Ice Arena.

MINIATURE RAILROAD—Operating sessions Saturday, Sunday and holidays, CRA Missile Park.

MODEL HO RAILROAD—Work sessions 9 a.m. Saturday; 7:15 p.m. Tuesday, CRA Missile Park.

PISTOL CLUB—Shoot Aug. 11, 9:15 a.m., S. D. Police Pistol Range.

RADIO CLUB — Live broadcast and TV station tour, Aug. 1, 7:30 p.m. Meet at KCST-TV, 8330 Engineer Road, Kerny Mesa.

RIDING CLUB—Hayride from Black Mountain Stables, Aug. 10, 7 p.m.

ROCKHOUNDS—Picnic, Aug. 18, 11 a.m., CRA Missile Park.

SAILING CLUB—Meet fourth Wednesday each month, 7:30 p.m.

SCULPTURE — Workshop sessions each Monday, 7-10 p.m.

SQUARE DANCE CLUB—Dance 8-10 p.m. each Thursday. Beginner 16-week course starting Sept. 17.

SPORTS CAR CLUB—Meeting Aug. 14, 7:30 p.m., Convair executive dining room, Lindbergh Field.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m.

TROPICAL FISH—Meet third Monday each month.

WIVES CLUB—Day at Del Mar races, Aug. 10.

WOMEN'S GOLF — Tournament Aug. 10, San Carlos Course.

50-Mile Tijuana Ride Planned For Cyclists

CRA Bicycle Club members will make a four-hour, 50-mile tour from Balboa Park to the international border and back on a "Tijuana ride" Aug. 10.

The group will meet at 7:30 a.m. at the Ford building, Balboa Park, take the Coronado ferry across the bay, and pedal along the Silver Strand and through Imperial Beach. Return trip will be via Chula Vista and National City. Ride leader is Dick Gilbert, ext. 1267 LF or (home) 223-8848.

Fourteen members of the club assisted with the Masters 26-mile marathon run for men over 40 July 21 at Mission Bay Park. The cyclists rode ahead of the runners, clearing the way through congested boardwalks and assisting traffic officers and other officials.

Radio Club Members See Live Broadcast

CRA Radio Club members will have an opportunity to see a live broadcast from KCST-TV, channel 39, a UHF television station on Kearny Mesa from 7-7:30 p.m., August 1.

Members will tour the station's facilities located at 8330 Engineer Road after the broadcast.

Rockhounds Slate Picnic For Sunday

Convair Rockhounds have scheduled a picnic for Sunday, Aug. 18, beginning at 11 a.m. at Missile Park.

Members will bring their own picnic lunches and coffee and punch will be provided by the club. Rockhound Bingo, where everyone is a winner, will be among activities scheduled.

Net 63 Is Low In CRA Golf

Joe Moore carded a low net 63 to take top honors in the CRA Golf Club tournament July 20 and 21 on the Rancho Bernardo course.

Other winners, each receiving a gift certificate, were:

1st flight—Al Reiter, low gross, 76; Russ Davis, low net, 67.

2nd flight—Mel Doerr, low gross, 80; Gary Paxson and Charles Stadler, tie for low net, 68.

3rd flight — Joe White, low gross, 85; Bert Emerson, low net, 68.

4th flight—George Hasti, low gross, 87; J. C. Duffy, low net, 68.

5th flight — N. Tosaya, low gross, 89; E. R. Gauthier, low net, 66.

6th flight—R. A. Asperin, low gross, 93; George Griffith, low net, 66.

7th flight—Bob Miranda, low gross, 104; Gene Laird, low net, 69.

8th flight—G. Oing, low gross, 78; R. Degn, low net, 70.

BABER WILL CHAIR COIN CONVENTION

Two members of Convair Coineers, Al Baber and Vince Bacon, will have important roles in the forthcoming American Numismatic Association's convention to be held in San Diego Aug. 20-24.

Baber, a past president of Coineers, will be general chairman of the convention, to be held at the El Cortez Hotel Convention Center. He is currently vice president of the California State Numismatic Association.

Bacon, commissioner of Convair Coineers, is chairman of housing.

The five-day convention will have regular business sessions open to members only, as well as coin exhibits and educational forums open to the public free of charge.

Among the convention's 100 exhibits, including those submitted by the U.S. Treasury, the Bank of Israel and the International Nickel Co., will be a million dollar gold coin exhibit.

Warren Walker Wins Both Pistol Classes

Warren Walker literally shot the course apart at CRA Pistol Club shoot July 14, placing first in both Short National and .22 Master Class competition.

Walker fired 283 in Master Class and 279 in the Short National match. Jim Halfacre was runner-up in both events.

Bill Dittmann barely edged Dick Sutton in the Expert Class, 266-265.

Next club shoot is Aug. 11, 9:15 a.m. at S.D. Police Pistol Range.

Horsemen to Hold Hayride Aug. 10

Convair horsemen have scheduled an old fashion hayride for Saturday, Aug. 10, beginning at 7 p.m. from Black Mountain Stables in Sorrento Valley.

Riders will escort the wagon on a two hour ride over country roads. Coffee and doughnuts will be served at the conclusion.

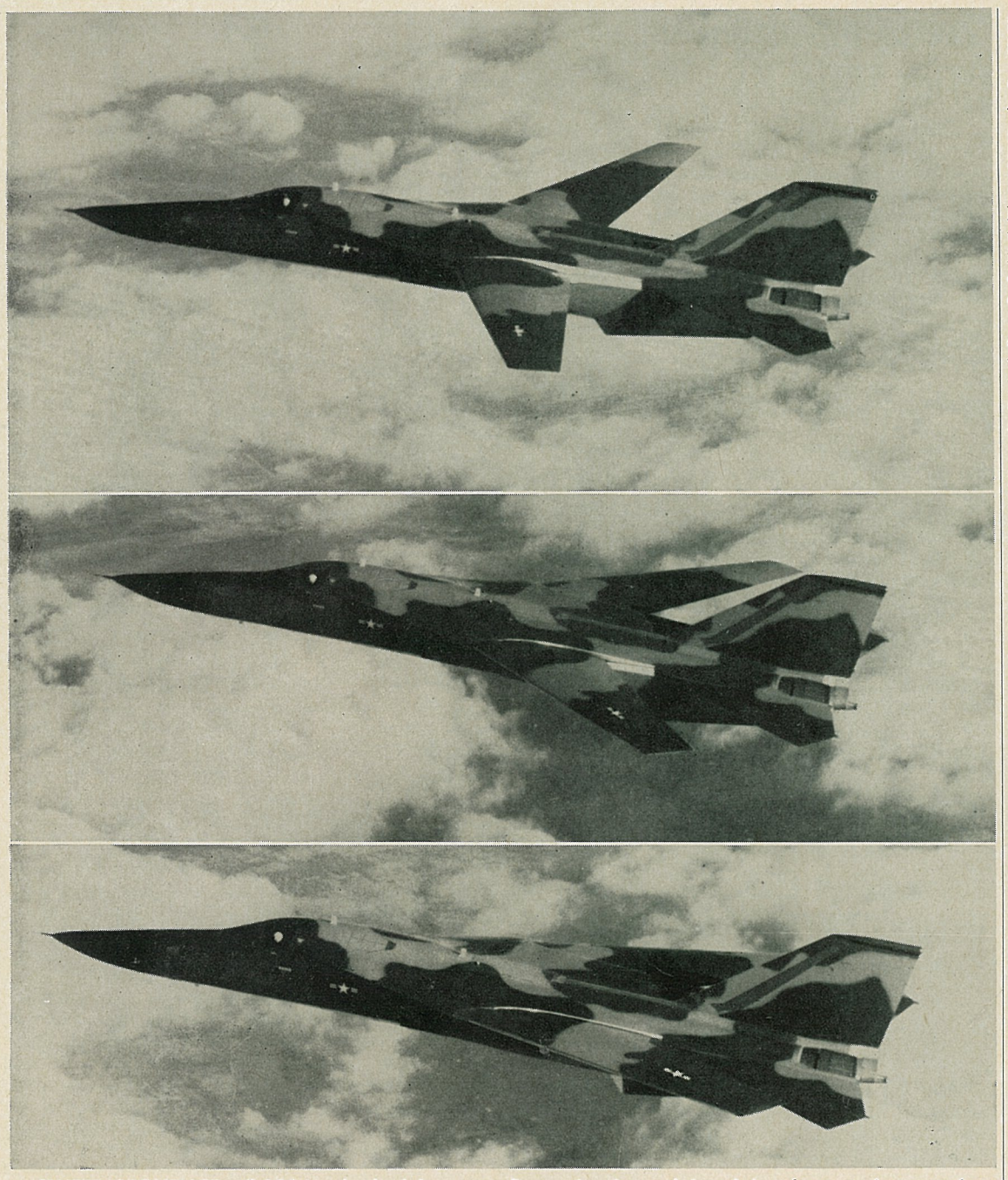
Steve Berry, Riding Club commissioner is taking reservations at ext. 2146 LF or (home) 277-7191.

Wives Club Plans Del Mar Race Day

CRA Wives Club will sponsor a "day at the races" at Del Mar on Saturday, Aug. 10, to benefit the club's charity projects.

Tickets are $2 each and may be obtained by phoning Mrs. L. F. Klepach, race chairman, 264-1013, or Mrs. Paul Brock, president, 583-1474, before Aug. 5.

One of the day's races will be named for the Wives Club and Mrs. Brock will present a floral garland to the winning jockey.



SWEEP SEQUENCE—F-111A, cloaked in camouflage, is pictured in triple photo series as wings are tucked back for high speed.

Highly Successful Raids Scored by F-111's Despite Nightime, Bad Weather

F-111As are making successful low-level strikes against enemy targets in Viet Nam at night and in bad weather — a mission no other American plane can carry out.

High-ranking Air Force officers and officials praised the variable-wing fighter's combat performance in recent Congressional hearings on appropriations and military posture.

Successful F-111A sorties against enemy targets were described by Hon. Harold Brown, Secretary of the Air Force.

"The strikes were made at night and in bad weather," he said, "the crew did not see the ground."

Secretary Brown said the F-111As descended to low altitude just before reaching the defended area, then used the aircraft's terrain-following and forward-looking radar to operate at very low altitudes. Reconnaissance photos later confirmed the F-111A's bombing accuracy.

"This should explain why people in the field wanted the F-111 over there," he said. "This was done entirely by radar, at night and in bad weather . . ."

Gen. John P. McConnell, Air Force chief of staff, also testified to the need for accurate bombing in all weather and at night.

Comparing the F-111A to the Air Force's current "best," Secretary Brown said:

"This aircraft can conservatively be credited . . . with mission ranges, payload capabilities, weapons-delivery accuracies and target-destruction effectiveness at least two to three times those of either the F-4 or F-105."

He said the F-111A had verified "key performance parameters."

These include: 100 per cent of speed at sea level and altitude (not only faster than current aircraft but for much longer periods); 110 per cent of stated ferry range; 95 per cent of combat ceiling; 15 per cent over goals for landing and taking off ("capabilities that few high-performance aircraft come close to matching even with drag chutes").

The F-111A was also lauded for its performance during training at Nellis AFB before deployment to Southeast Asia.

General McConnell said aircraft utilization during this period was 50 hours a month per aircraft — an unprecedented rate for such an early stage of development.

Secretary Brown added that the F-111As in training achieved some of the best blind bombing scores ever recorded by Air Force crews.

The secretary also told Congressmen that it was time to recall the basic goals of the F-111. These included a severalfold increase in tactical striking power, long and unrefueled ferry ranges, short takeoff and landing distances, and operation from forward bases with high reliability and ease of maintenance.

"I can report to you that these goals have been substantially realized," he emphasized.

General McConnell said perfection of low-altitude penetration techniques by the F-111A is "vital in achieving significant improvements in delivery of conventional munitions against highly defended targets.

"It is my judgment that perfecting the F-111 combat techniques will enable the Air Force to destroy selective, high-cost enemy targets with the least commitment of our resources and a minimum of civilian casualties in the vicinity of the target," he said.

Navy Awards Radio Contract

General Dynamics has been awarded a $10,722,983 contract by the U.S. Navy's Electronic Systems Command for production of high frequency radio equipment.

Initial work by the Electronics division will update the original design of the equipment to extend its performance and reliability.

After engineering redesign, the following initial quantities of equipment will be produced: 1,154 radio receivers, 384 exciters, 130 transmitter sets and 253 radio sets.

The equipment represents a compatible group of general purpose radio units for shipboard, shore, submarine and transportable two-way communications use.

All the equipment will be of rugged construction with solid state circuitry. Use of plug-in "building block" modules that are interchangeable from one type of unit to another will simplify maintenance and provisioning of spare parts.

Ocean Laboratory For Sonar Testing To Be Built Off Island in Bahamas

General Dynamics has been awarded a $9,126,672 contract by the Naval Ship Systems Command to develop and install the world's first ocean laboratory for testing sonar systems.

A sonar range will be constructed off Andros Island in the Grand Bahamas, W. I., to calibrate and analyze the performance of sonar systems used in underwater detection and tracking of submarines and surface vessels. The range will be the latest addition to the United States Navy's Atlantic Undersea Test and Evaluation Center known as AUTEC.

Electronics division will provide the entire complex of shore-based, shipboard and underwater installations for data acquisition and analysis of sonar performance under deep-sea conditions.

When completed, the AUTEC sonar range will be the first research and development facility capable of comparing the predicted and actual performance of sonar systems and devices under the same operational and acoustical environments as those encountered in fleet operations at sea.

The sonar range will be the third major test facility at AUTEC, which is situated in the Tongue of the Ocean just off Andros Island southwest of Nassau. A weapons range and acoustic range have been established.

Sonar systems will be tested on the range under conditions which cannot be simulated in laboratory testing. Data analysis and calibration of three-dimensional sonar patterns will be carried out with a new high degree of precision.

The AUTEC sonar range will measure the beam patterns and source levels of various sonar devices and analyze signal content and performance of advanced types of transducers. Transducers are underwater sound sources that convert electric or hydraulic energy into acoustic signals for transmission over long distances. Signal distortions and receiver sensitivities will be studied, and minimum detectable sonar signals will be determined, as well as the bearing and range accuracy of different sonar concepts. Both active and passive sonar performance will be studied, in addition to distance and direction tracking of underwater objects by means of echo-ranging sonar.

Under its contract with the Naval Ship Systems Command, GD will be responsible for the design, development, installation, test and demonstration of the facility's operational readiness. This will involve a variety of technologies, including system design and processing, data processing, design, development and testing of transducers, and computer simulation.

Electronics division, which has its main plant in Rochester, N.Y., will draw upon special technical capabilities of other units of General Dynamics.

Some of the AUTEC sonar range equipment will be pre-tested at the General Dynamics deep water "floating laboratory" on Seneca Lake, N.Y., prior to installation in the Bahamas. The Seneca Underwater Test and Evaluation Center (SUTEC) includes the laboratory barge Darius which is being upgraded to handle the largest transducers at depths of 600 feet. The Electronics division also has an underwater acoustics facility at its Rochester plant where transducers of up to 5,000 pounds are tested in a 500,000-gallon indoor tank 48 feet in diameter and 30 feet deep.

Electric Boat division, which pioneered in building nuclear submarines and deep submersibles, is currently building a miniature research submarine called AUTEC I for use at the Bahamas facility.

The AUTEC sonar range project will be the responsibility of the antisubmarine warfare ASW product group of Electronics division.



You can buy U. S. Savings Bonds regularly for as little as 50 cents a week.

Undersea Capabilities Shown For Marine Tech. Exposition

General Dynamics' display booths at the Marine Technology Exposition in Washington, D. C. this month drew an estimated 3,000 visitors.

They watched Electric Boat division's new manipulators, nearly as dextrous as human arms, grab objects from the "ocean floor" and perform other simulated underwater work. At a press demonstration, one of the arms plucked a handkerchief from a spectator's jacket pocket.

The manipulator arms were not simply showpieces. They will be installed on one of the two AUTEC submersibles General Dynamics will deliver to the Navy later this year. An identical pair will go on the other AUTEC craft. Jointed at the shoulders, elbows and wrists, they can duplicate nearly all human arm movements and can lift up to 500 pounds.

The GD display was one of the show's largest. It was one of the show's busiest, too.

Among its other attractions was a slide-and-film presentation of GD capabilities in undersea technology; a film describing Convair division's ocean data and navigation stations; another film explaining Electronic division's work in underwater acoustics.

Models of the Star and AUTEC submersibles, a proposed manned underwater station, a deck decompression chamber and a personnel transfer capsule, the ocean data and navigation stations, and a variety of electronics gear rounded off the exhibit.



GRABBER—Manipulators for undersea work were hit of Marine Technology Exposition and grabbed attention of visitors.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 17 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, August 14, 1968

Hopley Heads New Product Development

Edward J. Hopley, formerly vice president - marketing for Avco Corp. and president of his own management personnel recruitment firm, has joined Convair division as director of new product development (Dept. 105-0). He reports to Jack L. Bowers, Convair general manager, and will have offices at the Lindbergh Field plant.



E. J. Hopley

Bowers said Hopley's new product development organization will conduct an aggressive program to broaden the division's product areas.

Emphasis will be placed on commercial and industrial areas, particularly where unusual marketing approaches are required.

Military programs not otherwise covered by existing organizations will be included on a selective basis.

"Initial product assignment will include the Convair 600 program with plans to pursue current sales activities and study the world market for optimum means for future development," Bowers said.

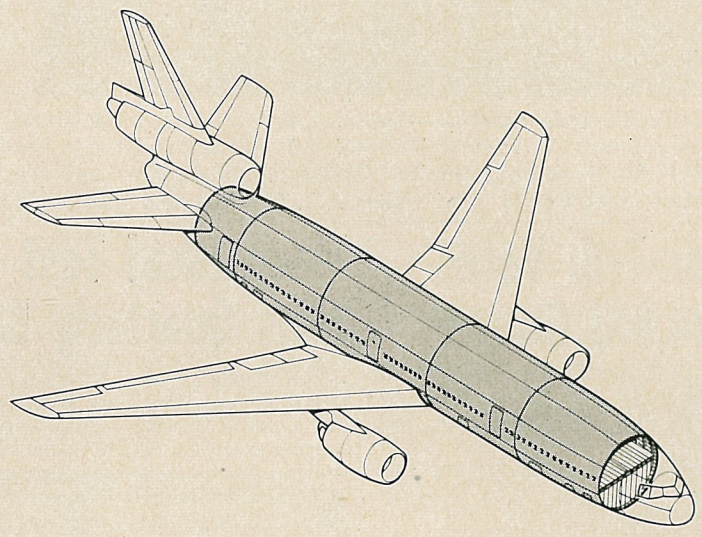
The division's aircraft sales and service organization headed by P. M. Prophett has been transferred to Hopley's direction. B. J. Simon of the research and engineering department is on special assignment to assist in new product development on commercial aircraft programs.

Hopley was with Avco Corp. in Cincinnati, Ohio, from 1958 to 1966—serving six years as director of marketing and two years as vice president-marketing.

Since that time, he has served as president of Management Recruiters Inc. of Cincinnati and Boston. He was with Convair briefly in 1966 for a special executive assignment in contracts and commercial sales areas.

Before joining Avco, Hopley served six years in merchandising and sales management positions with the Crosley-Bendix appliance division in Cincinnati and Boston. He previously had been district manager for Westinghouse Electric Supply Corp. in Boston for four years and sales manager for an auto firm for three years.

Hopley is a native of Massachusetts and was educated in New Hampshire.



CONVAIR TASK—Shaded area in drawing of DC-10 Tri-Jetliner is portion Convair will build.

23 GD Students Earn Advanced Degrees

(See page 3 for a review of San Diego area educational institutions.)

Eighteen employes from Convair division and five from Electronics-SD have been awarded masters and doctoral degrees recently from six Southern California colleges and universities. Several others have been awarded bachelor and associate in arts degrees.

Thirteen of the advanced degree winners received masters degrees from San Diego State College — six in electrical engineering, two in aerospace engineering, two in mathematics and one each in engineering, mechanical engineering, physics and business administration.

Three were awarded juris doctor degrees from the University of San Diego following four years of evening law school studies.

Others received degrees from the University of California at San Diego in aeronautical and mechanical engineering sciences; United States International University in business administration and counseling and guidance; University of California at Los Angeles in mathematics and engineering, and Long Beach State College in mechanical engineering.

New advanced-degree recipients at Electronics-SD are Harold Dickstein, juris doctor, USD, and David Borkenhagen, D. W. Bentrott, Phil Allen and C. E. Jones — all receiving M.S. degrees in electrical engineering from San Diego State.

Convair advanced-degree winners, listed by department, degree and institution, are:

Research and engineering — William E. Bristow, 542-0, MS, physics, SDSC; Richard S. Grote, 589-1, MA, math, UCLA; Joel F. Brody, 553-1, MS, electrical engineering, SDSC; Merle J. Aleshire, 589-1, MS, engineering, UCLA; Dominic M. Abbodanza, 595-0, MS, business administration, SDSC; John J. Smith, 511-3, MS, mechanical engineering, Long Beach State; Anthony V. Nicita, 595-0, MS, math, SDSC.

Launch vehicle program — Ross A. Buck, 962-2, MS, mechanical engineering, SDSC; Michael J. Hurley, 966-7, MS, mathematics, SDSC; Robert W. McNamara, 966-7, MS, engineering, UCLA; Charles L. Hyde, 988-7, MS, electrical engineering, SDSC; George D. Heller, 966-1, MS, aerospace engineering, SDSC Martin K. Winkler, 986-4, MS, aerospace and mechanical engineering science, UCSD; Robert J. Buehler, 964-5, masters in business administration, USIU; Richard J. McCool, 966-4, MS, aerospace engineering, SDSC.

Industrial relations — R. C. McKee, 130-0, juris doctor, USD; David K. Chigos, 130-3, MA, counseling and guidance, USIU.

Reliability control — Seymour J. Rose, 142-1, juris doctor, USD.

Employes receiving bachelor's degrees in June included J. H. Goetz, Electronics-SD, BS, mechanical engineering, SDSC;

(Continued on Page 2)

Here Are Deadlines For Enrollment

Following are deadlines for fall quarter or semester enrollment at major local educational institutions:

San Diego State College — registration, Sept. 17-20; classes begin Sept. 23. Deadline is past for new or re-entering student enrollment.

University of California at San Diego — registration Sept. 27; instruction begins Sept. 30.

University of California Extension — classes begin Sept. 30; enroll by second class session.

U. S. International University — registration for day students, Sept. 23-25, graduate and evening students, Sept. 21; classes begin Sept. 26.

University of San Diego — registration Sept. 3-7; classes begin Sept. 9.

San Diego Evening College— registration Aug. 19-Sept. 10; classes begin Sept. 16.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

★ ★ ★

Q—Could amounts for holidays that occur during vacation be included in the vacation checks issued to hourly employes, rather than issue a separate check?

A—Prior to the merger of Convair and Astronautics divisions, each division followed a different practice in this regard. Following the merger we adopted the practice of issuing separate checks because it was found that the expense involved in record keeping, etc. was greater when issuing combined checks.

★ ★ ★

Q—When the small van-type trucks leave the various

(Continued on Page 2)

Buildup Begins As Convair Wins DC-10 Program

Convair division has been selected to manufacture a major portion of the fuselage for the new McDonnell Douglas Advanced Technology DC-10 Tri-Jetliner.

The work will have a value of approximately $500 million by 1975, and includes design responsibilities as well as production.

In signing the agreement for General Dynamics, Jack L. Bowers, division general manager, said, "we are happy to join McDonnell Douglas in development of an airplane that will be a mainstay of commercial air travel for many years. We feel that the DC-10 concept is outstanding, and we welcome the opportunity to help develop it."

Program Important To Convair Future

Convair General Manager Jack Bowers said the DC-10 contract is an important step in the continued future growth of Convair.

"Acquisition of the DC-10 work, when coupled with our existing contracts and with the key military aircraft programs we will be actively seeking, greatly enhances our already positive outlook for the next few years," he said.

"I am particularly proud of the fine Convair team which has worked so diligently with McDonnell Douglas personnel on this complex agreement."

An estimated 4,000 Convair employes will be assigned to the DC-10 program when production reaches its peak. The division will begin an immediate buildup in its tooling engineering, tool design and planning, and tool making capabilities, adding about 1,000 employes in these areas between now and mid-1969.

Jackson McGowen, vice president of the McDonnell Douglas Corporation and group vice president-aircraft of the Douglas Aircraft component, commented, "we are particularly pleased to obtain the services of Convair for the DC-10, because of its experience in producing large commercial jet transports."

McGowen pointed out that the wide-bodied fuselage to be made by Convair will be one of the outstanding advances in the DC-10 in terms of air passenger comfort and in terms of airport space utilization when the advanced technology aircraft enters airline service in 1971.

Convair will build all of the 179-foot, 8-inch DC-10 fuselage structure except the nose and tail sections. The fuselage, nearly 20 feet in diameter, will be built at Convair's Lindbergh Field plant. The five sections to be produced are 128 feet long when mated together.

The two forward sections and two aft sections will be joined prior to shipment to Douglas Aircraft division's Long Beach plant for final assembly.

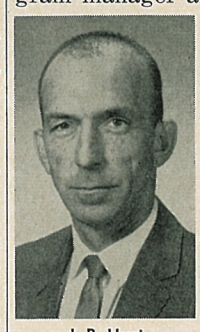
Delivery of the first complete fuselage package will be made in late 1969. Convair will complete design work on four of the five sections, and will be responsible for tooling design, manufacture and assembly of all five sections.

The DC-10 is a multi-range jetliner that will accommodate 271 passengers in a typical mixed-class arrangement, and will operate economically over routes from 300 to 3,200 statute miles in length. It can seat well over 300 passengers in all-economy configurations.

American Airlines and United Airlines, first two airlines to order the DC-10, have placed orders and options totalling 110 aircraft.

Hurt to Head DC-10 Support

John B. "Jack" Hurt, a veteran of 28 years with Convair, has been named DC-10 support program manager and will direct all Convair activity on the DC-10 fuselage program and have responsibility for meeting program requirements. He reports to W. L. Van Horn, director of operations.



J. B. Hurt

Hurt previously was assigned to advanced program development including the CARA (Combat Aircrew Recovery Aircraft) and other programs and was program manager for the 600/640 turboprop transport program.

He was program manager for the NASA Little Joe II launch vehicle for four years, with responsibility for the program from its initial proposal through successful completion.

Hurt joined Convair as a detail draftsman in 1940 and also has served as an engineering designer, senior design engineer, assistant project engineer, design

(Continued on Page 2)

$400,000 Added to Design and Analysis Work on Total In-Flight Simulator

An additional $400,000 in engineering design and analysis has been received for the Air Transport Total In-Flight Simulator (AT/TIFS) presently being designed by Convair for Tex Johnston, Inc. of Santa Barbara.

The design work, which now brings the total AT/TIFS contract to approximately $1.4 million, is for aerodynamic performance predictions, avionics system design, and for design of an auxiliary power unit installation (APU).

Delivery of the complete engineering package still remains approximately Feb. 1, 1969, said F. J. Signorelli, AT/TIFS program manager. An additional 60 engineers will be used on the project in order to meet delivery commitments.

The AT/TIFS airplane which Convair engineers are designing will incorporate a Boeing 707 nose section attached to the front of a modified Convair 580 transport, and will be used by commercial airlines for training Boeing 707 flight crews.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Aug. 1 and Aug. 15.

Thirty-year: Dept. 045, R. E. Pendarvis; 524, M. C. Tombler; 575, T. L. Maloy.

Twenty-five-year: Dept. 002, R. L. Carlson; 027, J. R. Grimm; 101, E. H. Spinning; 102, N. W. Lamb; 145, D. P. Bender; 250, E. S. Johnson; 491, C. E. Roye; 731, D. L. Sanders.

Twenty-year: Dept. 143, O. W. Bruton; 202, T. Kell; 401, F. Evers; 780, Ailie M. Koskela, Catherine R. Spina; 952, Esther A. Buckley.

Fifteen-year: Dept. 005, N. Meeks; 027, M. Mathews; 059, J. R. Munson; 101, Virginia L. Petersen; 143, J. P. Grando; 191, Bette J. Clancy; 250, O. Houston, R. H. Raynes, C. A. Zanoska; 401, A. C. Wright; 420, D. G. Tessereau; 507, W. H. Jackson; 512, H. C. Leasure; 519, G. W. Suydam; 553, T. W. Runyan; 731, R. A. Greenlee; 756, W. R. Gray; 780, Hazel R. Myers, C. Snyder; 831, A. R. Wallace; 833, G. E. Garrison; 954, R. H. Taddiken; 985, T. C. Gaddis.

Ten-year: Dept. 015, L. S. McDonald; 059, B. G. Houdlette, Matilda E. Laidler; 110, Bonnie L. Robbins; 130, Elsie J. Richardson; 143, R. G. McSwain Jr.; 195, Marjorie E. Percival; 197, G. M. Washburn; 250, J. N. Hubbel; 452, R. Johnson; 460, I. E. Dunbar; 507, K. G. Eastin; 514, A. Kremm; 515, Sylvia Stern; 518, Gypsi Tompkins; 524, Kathryn W. Knoff; 541, C. Hatchett; 553, D. B. Smith; 763, R. K. Sprague; 780, R. D. Bailey, Grace H. Gleaton, C. J. Patten, L. P. Rehkopf; 385, J. Santos; 850, R. B. Amick; 964, Sybil J. Tucker; 979, G. R. Holmes, J. L. Penland; 985, Marylyn C. Brooks; 986, J. R. Edwards.

ELECTRONICS

Fifteen-year: Dept. 106, K. E. Smith.

Ten-year: Dept. 613, Josephine A. Cali; 712, M. Reynante.

Personals

CONVAIR

I wish to express my heartfelt thanks for the beautiful gift and to all who made the retirement party for me such a success. I shall cherish the memory of that evening forever.

Petrus A. Carlson

We wish to express our appreciation and thanks to our Convair friends for their kindness at the passing of our husband and father, Joseph M. Kirk Sr.

Martha L. Kirk, Joseph M. Kirk Jr. (Dept. 401)
and Jeannine Forbes (Dept. 059)

My family and I wish to thank the many Convair friends who were so helpful during my recent illness. The blood donations, cards and visits were greatly appreciated.

Earl G. Smith
Dept. 149-7

Rider-Driver

CONVAIR

RIDE WANTED — From 30th and El Cajon to Lindbergh Field plant. 7 a.m. to 3:30 p.m. shift. Call Albert J. Kimes at 282-3826.

RIDE WANTED—Broadway and C. t., Chula Vista, to Lindbergh Field lant, 8 a.m. to 4:45 p.m. shift. Phone)on Wyman, ext. 415 LF or (home) 26-0858.

Invention Disclosures

CONVAIR

BLOOM—G. E., Dept. 967. Tunnel ode Overload Sensor for Series Volte Regulators.

BOND—W. H., Dept. 570. Advanced iclear Rocket.

CURRIDEN—E. H., Dept. 962. Dechable Shirt Cuff.

MOTES—J. J., Dept. 531. Handwasher.

POLLARD—B. G., Dept. 551. Field Effect Monitor (FEM) Intrusion Detector.

Awards

CONVAIR

Employe Suggestions awards approved for the week ending July 26.

Dept. 401, C. B. Adams, $223.00; 574, A. Aron, $133.80; 143, F. A. Baugh, $86.00; 250, D. E. Belchamber, M. E. Nicolet, W. C. White, (three, joint awards) $170.17 each; 759, G. Buono, $140.00; 015, P. R. Barley, $232.80; 027, R. J. Dunn, F. J. Tominia (joint award) $15.65 each; 001, F. M. Heaton, $42.30; 015, M. E. Long, $69.50; 001, E. C. Mackey, H. G. Mondy, (joint award) $40.45 each; 101, F. I. Millsap $95.80; 027, R. Petrosky, $58.70; 250, A. L. Robinson, $15.00; 460, C. Tyree, $129.50; 250, R. D. Whaley, $47.70.

Employe Suggestion awards approved for the week ending Aug. 2.

Dept. 049, K. R. Abbott, $15.00; 027, W. D. Arrasmith, $31.10; 579, R. W. Baldi, $381.60; 250 D. E. Belchamber, M. E. Nicolet, W. C. White; (joint award) $32.90 each; 020, E. Bowers, $15.00; 979, A. J. Boyd, $15.00; 759, G. Buono, $148.40; 144, W. L. Burkhalter, $24.30; 553, G. Cazaux, $126.20; 001, C. H. Fasching, $15.00; 049, L. C. Foust, $15.00; 019, J. Gooden, $15.00; 572, L. Heyn, $15.00; 833, J. Hicks, $18.60; 733, L. N. Jones, $16.10; 143, W. D. Kennedy, $42.80; 579, G. D. Lindeneau, $93.70; 144, W. G. Lux, $98.00.

Dept. 507, E. V. Marikle Jr., $15.00; 143, J. J. Murphy, $15.00; 142, W. C. Oliver, $19.50; 140, C. V. Pereira, $189.30; 250, J. S. Poschman, $15.00; 979, W. B. Rauch, $30.00 (two awards); 733, R. E. Reeves, $15.00; 027 H. M. Sagert, L. R. Stevens, (three joint awards) $81.95 each; 001, B. U. Santi Jr., C. E. Scott Jr., (joint award) $39.76 each; 962, B. G. Sherwood, $15.00; 194, M. A. Silva, $15.00; 979, L. M. Shenise, $25.00; 001, E. B. Tutterrow, $39.76; 979, V. J. Wassmuth, $15.00; 761, R. L. Witt, $30.00 (two awards); 574, F. W. Wundrow, $30.00.

Retirements

CONVAIR

AGUAYO—Pete, Dept. 250-1. Seniority date June 14, 1956, retired July 31.

CARLSON—Petrus A., Dept. 145-1. Seniority date Nov. 22, 1954, retired July 31.

DE VRIES—Durward C., Dept. 565-1. Seniority date Dec. 5, 1961, retired July 15.

FLANAGAN—William J., Dept. 562-3. Seniority date Jan. 1, 1951, retired July 29.

GARSIDE—Joseph Jr., Dept. 832-3. Seniority date April 11, 1956, retired July 31.

HAYMAN—Maxwell J., Dept. 250-3. Seniority date May 14, 1934, retired July 31.

KNUDSEN—Knud A., Dept. 543-2. Seniority date March 15, 1954, retired July 26.

LITTEN—Waldo C., Dept. 31-0. Seniority date Sept. 3, 1947, retired July 31.

McCLURE—Benjamin, Dept. 761-0. Seniority date March 28, 1947, retired July 31.

MILLER—Richard, Dept. 143-1. Seniority date Nov. 5, 1946, retired July 26.

NICHOLS—Frederick Jr., Dept. 833-2. Seniority date April 12, 1955, retired July 31.

POSCHMAN—William H., Dept. 401-4. Seniority date Sept. 20, 1937, retired July 31.

RAYNES—Randolph H., Dept. 250-3. Seniority date Oct. 18, 1954, retired July 31.

STAFFORD—Charles J., Dept. 833-2. Seniority date March 26, 1956, retired July 31.

WILLIAMS—George E., Dept. 985-1. Seniority date Dec. 11, 1956, retired July 27.

WOLFE—Richard J., Dept. 566-1. Seniority date Dec. 23, 1940, retired July 31.

Papers Presented

CONVAIR

BOYNTON—F. P., Dept. 596. "Impingement Forces in a Single-Phase Plumes and Uncertainties." Conference on Rocket Plume Phenomena, Aerospace Corp., San Bernardino, July 11-12.

PARSONS—R. J., Dept. 115, and N. E. TIPTON, Dept. 145. "A Study of Dormant Missile Systems." SAE, ASME, AIAA/Seventh Reliability and Maintainability Conf., San Francisco, Calif., July 14-17.

Papers presented at the IEEE/1968 Symposium on Electromagnetic Compatibility in Seattle, Wash., July 23-25.

ADAMS—W. S., and A. H. MILLS, Dept. 542. "Electromagnetic-Shielding in the Near Field."

MERTEL—H., Dept. 542. "Measurement of Manmade Electromagnetic Radiations from a 200 Mile Orbit."

MILLS—A. H., Dept. 542. "A Survey of Radio-Frequency Noise in Urban, Suburban and Rural Areas."

MOFFAT—D. W., Dept. 542. "Recording and Reproducing Transients for Frequency Domain Analysis."

Deaths

ELECTRONICS

MAJCHROWICZ, John A., Electronics Dept. 508-2 retiree. Died July 23 in Florida. Survived by wife and daughter.

General Dynamics News

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Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

23 Awarded Adv. Degrees

(Continued from Page 1)

James M. Hardison, Convair Dept. 113-0, BA, financial institutions, USIU; Donald H. Sweetman, Convair Dept. 104-6, BA, journalism, SDSC; Eric V. Torp, Convair Dept. 191-0, bachelor of laws, La Salle Extension University. Bernie J. Tucker of Electronics-SD received an associate in arts degree and J. J. Seean, Electronics-SD, a certificate of proficiency in quality control.

Each employe receiving a masters or doctorate in a job-related field submits substantiation to educational services, through his supervisor, and a special advanced degree salary review is arranged by the industrial relations department. Consideration also is given to whether a change in job classification is appropriate.

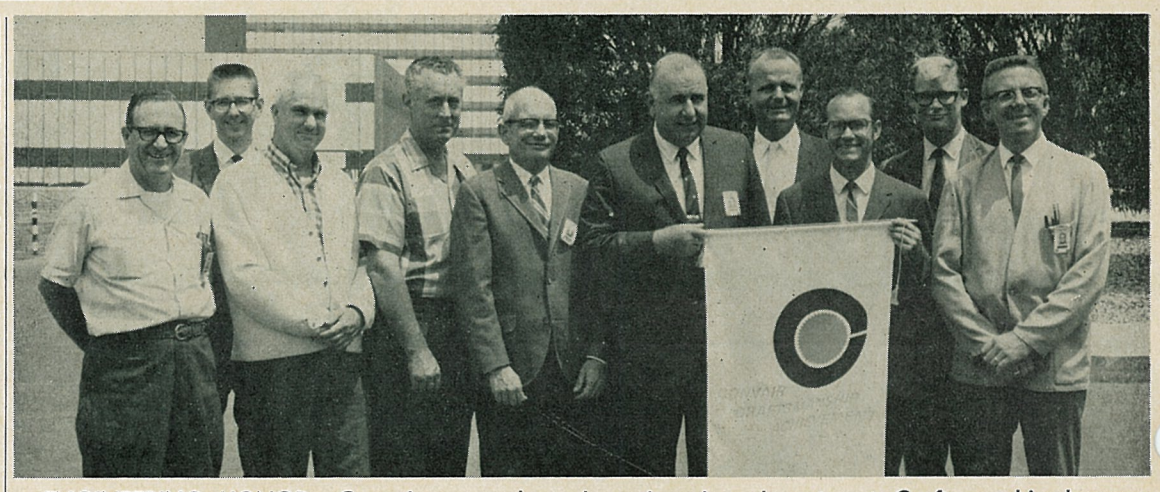
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Fourteen Working Toward Doctorates

Fourteen Convair division employes were enrolled in university courses leading toward PhD degrees during the spring semester.

Six were enrolled in full-time studies under Convair division doctoral fellowships. They were Ola Brevig, Kittridge Burton, James V. Dalton, Charles A. Miller Jr., Herbert Moskowitz and Paul L. Nunez III.

Others working toward their doctorate, listed by department, included Evan A. Evans, 584-0; H. K. Griesbaum, 053-0; Jerry L. Hooley, 170-1; Andrew R. Marchese, 584-0; John B. Nelson, 146-5; Delroy M. Richardson, 130-9; Stephen D. Royer, 110-2; Jerome E. Sacks, 586-0; and John E. Vondracek, 142-1.



ENGINEERING HONOR—Convair research and engineering department Craftsmanship banner, displayed by P. D. Ferrara, left, and R. T. Tuttobene, has been awarded to mechanical test labs (Dept. 578-1) for three-month period. Others at presentation ceremony, from left, are C. C. Crush, John Routson, Jack Easton, Fred Costa, P. T. Gardner, Bill Thomas, Gerald Sasek, Dave Lawrance.

Con-Trib Votes $44,440 Grants

Grants totaling $44,440 for 16 community service organizations in the San Diego and Cape Kennedy areas were allocated in meetings last month by the Convair Employes' Con-Trib-Club committee.

Included were $12,000 for the San Diego USO, to be paid over a three-year period for an elevator for its planned building; $10,000 for St. Madeleine Sophie's Pre-School for Exceptional Children, to be paid over a two-year period for its building fund; $6,000 for the Girls' Club of El Cajon toward cost for a library at its new facility, and $2,000 to Mesa Vista Hospital for use toward cost of building a musical therapy room.

Also $2,500 for the Home of Guiding Hands of the Lutheran Association for Retarded Children for operating expenses; $2,000 for the Viet Nam Gift Pac organization for 400 Christmas gift packages for servicemen; $1,500 for International Guiding Eyes, Inc., for operating expenses; $1,500 for the San Diego chapter of the National Multiple Sclerosis Society; $1,500 for the Muscular Dystrophy Associations of America; $1,000 for the San Diego chapter of the National Cystic Fibrosis Research Foundation; $1,000 for the United Jewish Federation for its annual appeal, and $340 for the Tuberculosis and Health Association of San Diego County for magazine subscriptions for the patients at County University Hospital.

Grants totaling $3,100 were approved for four organizations on recommendation of the Florida employes' advisory committee. Included was $1,000 for the American Cancer Society, $1,000 for the Canaveral Area Heart Association, $1,000 for the Community Services Council of the Community Mental Health Centers, Inc., and $100 for the National Foundation - March of Dimes.

Hurt to Head DC-10 Support

(Continued from Page 1)

group engineer and senior propulsion engineer.

Robert R. Hoover will be deputy program manager for the DC-10 support program, reporting to Hurt. He will assist in coordinating tool design and manufacturing through detail fabrication, engineering support, assembly, shipping and test and operations support.

Other key program personnel and their areas of responsibility include: Max Yale, engineering; Jerry Swarts, reliability control; Joe Penner, production engineering; Ed Robinson, manufacturing; Jack Beckman, program administration; John Ruzich, logistics support; Paul Penninger, material; Paul Bazler, product support; Tom McCubbin, industrial engineering, and George Vetter, contracts.

Andy Minella will be Convair representative at the Douglas Aircraft plant in Long Beach. McDonnell Douglas will also establish a resident representative office at Lindbergh Field.

Mechanical Test Laboratories Wins Quarterly Banner Award

Mechanical test laboratories (Dept. 578-1) have been awarded the Convair research and engineering department's Craftsmanship achievement banner for exemplary performance toward program goals during the second quarter this year.

Paul Ferrara, director of engineering administration and services, presented the banner July 19 to R. T. Tuttobene, test lab group engineer, in ceremonies attended by Phil T. Gardner, manager of engineering test facilities, and representative employes from the winning department.

The 17 Dept. 578-1 employes are assigned to mechanical, hydraulics, gas flow, rocket test, air flow, hazard test cells and fuel test labs at Kearny Mesa, Lindbergh Field and the Harbor Drive Facility and liquid hydrogen test site "B" and high-energy propellants test site "D" at the General Dynamics' Sycamore test center.

Ferrara presented the award on behalf of E. R. Peterson, vice president-research and engineering, and congratulated lab personnel for having met and exceeded stringent and meaningful goals.

Dept. 578-1 achieved a 400 per cent improvement in housekeeping and safety over last year's record — with only two violations reported during the first six months of this year.

The department reduced errors reported on task histories to two during the first six months this year and cut the average number of technical report errors for 124 reports to less than one per report.

In addition, the department bettered other goals by completing reports within an average of five days after test completions and having six employes enrolled in management and technical job-oriented college courses each month.

Ten Employe Suggestions, cost reduction projects and NASA Tech Briefs were submitted during the first six months — compared with a goal of 12 for the year.

Work toward goals by more than 85 engineering groups and sections were reviewed before Dept. 578-1 was chosen.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

plants the doors are padlocked by security. However, the spare wheel and jack are located in the "locked" area. Could this equipment be relocated?

A—Our fleet of van-type trucks has recently been replaced and spare wheels and jacks are now located forward of the "locked" area.

★ ★ ★

Q—Would it be possible to set up a bus run between LF and Plant 19 after 3:30 in the afternoon? When an employe needs tools from tool stores he can catch the 3:30 bus to LF, but there is no return service. Could the final bus be scheduled at 4 p.m.?

A—Because of the down time between the first and second shifts (3:30-4:30) it appears there would be insufficient traffic to warrant a 4 p.m. bus. We will survey supervision, however, and if the requirement exists we will add to the service.

★ ★ ★

Q—Although Bldg. 33 personnel (KM) in the clean room are advised not to wear other people's smocks, the visitors' smocks are not changed regularly.

A—The ultimate answer is a paper smock that can be disposed of. However, we have not yet been able to find one at a suitable price. The cost of laundering individual smocks is 80 cents each and the number of visitors varies considerably, making changing visitor smocks on a daily basis prohibitive. Until such time as appropriate paper smocks can be obtained the condition will be closely monitored.

★ ★ ★

Q—Each day a number of us walk from Bldg. 26 around Bldg. 33 (KM) and back for exercise. What are the distances involved? It would be of value to us to know how far we are walking each day.

A—The round trip from Bldg. 26 South to Bldg. 30, East to and around Bldg. 33 and then West back to Bldg. 26 is 1.17 miles.

★ ★ ★

Q—Are Employe Suggestions opened for automatic review if used on renewed schedules or broadened applications?

A—ESs are not opened for automatic review on renewed schedules or broadened applications. Awards are made on savings for one year from date of approval and are not eligible for payment beyond the one-year period. However, if you feel you have justification for reopening an ES at any time, write an AVO to the Suggestion Group, explaining the justification.

Wide Curriculum Range Offered by Colleges

The wide range of curriculum and degree programs offered during both day and evening hours by colleges and universities provides almost unlimited opportunity for General Dynamics employes in the San Diego area to further their education both generally and in their specific career field.

SAN DIEGO STATE COLLEGE offers undergraduate studies in the arts and sciences in 54 fields and studies leading to master's degrees in 36 fields. Two-year programs are also available in business administration and social work and doctoral degrees are awarded jointly with the University of California.

The master of science degree is offered in the fields of aerospace engineering, astronomy, biology, business administration, chemistry, civil engineering, counseling, electrical engineering, geology, home economics, mathematics, mechanical engineering, physics, psychology and public administration.

Major fields in which the master of arts is awarded are anthropology, art, biology, business education, chemistry, economics, education, English, French, German, geography, health education, history, industrial arts, Latin American studies, mathematics, music, philosophy, physical education, physical science, physics, political science, psychology, social science, sociology, Spanish and speech arts.

The college has more than 1,200 full-time professors with 68 per cent holding doctoral degrees. Extension courses and a certificate program in public administration also are offered.



SEVEN MASTERS—Andrew Kalitinsky, director-launch vehicle engineering, left, reviews record of Convair launch vehicle programs personnel who recently received masters degrees. Advanced degree recipients shown, from left, are Charles L. Hyde, Ross A. Buck, Robert W. McNamara, George D. Heller, Richard C. McCool, Martin K. Winkler and Robert J. Buehler. Atlas SLV-3C No. 5402, in background, will be booster for one of next year's Mariner Mars missions.



CONGRATULATIONS—Jack Croft, left, chief of educational services for Convair division, discusses academic achievements with five new degree recipients. From left, they are R. C. McKee and Seymour J. Rose, who received juris doctor degrees; Eric V. Torp, who earned bachelor of laws, and James M. Hardison and Donald H. Sweetman, each also with new bachelor degrees.

Naval Reserve Officers School Offers Job-Related Courses

General Dynamics employes have been invited to attend job-related courses being offered by Naval Reserve Officers' School 11-2 in San Diego during the fall semester on a "space available basis." Classes will be held at four locations in San Diego County beginning Sept. 12.

Expected to be of specific interest to employes are courses on anti-submarine warfare, systems project management, space technology, amphibious operations, counterinsurgency, security of classified information, PERT (program evaluation and review technique), oceanography and digital data systems.

LCdr. Edward L. Fitzgibbons of Convair's Dept. 595-0 will be instructor for a course in "Elementary principles of digital data systems." LCdr. David Chigos of Convair's Dept. 130-3 is instructor evaluator and public affairs officer for the unit.

Phone Chigos, ext. 1931 KM, for additional information.

UNIVERSITY OF CALIFORNIA AT SAN DIEGO offers undergraduate studies in more than 15 major areas in its Revelle and Muir colleges, the first two of 12 colleges planned for its campus in La Jolla.

Masters and doctoral degrees are offered in aerospace engineering, applied electrophysics, applied mechanics, bioengineering, cellular biology, chemistry, earth sciences, economics, engineering physics, linguistics, English and American literature, Spanish literature, marine biology, mathematics, oceanography, philosophy, physics and psychology.

UNIVERSITY OF CALIFORNIA EXTENSION during the fall quarter will offer more than 150 individual courses and special workshops and seminars at 30 locations in the county and on local and Los Angeles TV stations.

Twelve-week "Introduction to information processing and computer programming" courses will be given at Convair's Kearny Mesa and Lindbergh Field plants. The KM course will be held from 5 to 8 p.m. Thursdays from Sept. 26 to Dec. 12 with F. D. Schwend of Dept. 170-1 as instructor and the LF course from 5 to 8 p.m. Mondays from Sept. 23 to Dec. 9 with J. A. Hicks of Dept. 170-1 instructing.

A 12-week course in "Computer programming systems — concepts and facilities" also will be given at KM from 5 to 8 p.m. Wednesdays from Sept. 25 to Dec. 11 with Hicks as instructor.

E. D. Heller, manager of cost reduction and value control for Convair, will be instructor for a "Principles and applications of value analysis" course to be given from 7 to 10 p.m. Mondays beginning Sept. 23 at Roosevelt Junior High.

U.S. INTERNATIONAL UNIVERSITY will be offering curriculum at three campuses, including the new Elliott campus on Pomerado Road east of Miramar Naval Air Station, this fall.

At the Elliott campus, the graduate school of business and economics will offer programs leading to the master of business administration and master of science in management science degrees and the graduate school of leadership and human behavior will offer study leading to masters degrees in human behavior, education, and counseling and guidance, and the doctoral degree in leadership and human behavior.

Undergraduate studies in several fields will be available at the California Western campus on Point Loma. The school of performing arts at the downtown City Center campus has a four-year course leading to the bachelor of fine arts.

UNIVERSITY OF SAN DIEGO is a Catholic institution offering undergraduate arts and sciences degrees in its college for men and college for women and masters degree programs in education and teaching. Its school of law, with day and evening programs, awards the juris doctor degree.

SEVEN TWO-YEAR JUNIOR COLLEGES in San Diego County offer courses leading to the associate in arts (AA) degree and to certificates of proficiency in supervision and other fields. Day and evening courses are offered in a wide range of general education, business education, technical and trade extension and apprenticeship fields.

Included are San Diego City College at 1425 Russ Blvd., Mesa College at 7250 Artillery Rd. on Kearny Mesa, San Diego Evening College using the City and Mesa campuses, Grossmont College in El Cajon, Southwestern College in Chula Vista and Palomar College in San Marcos.

Registration for in-plant San Diego Evening College courses is handled by educational services offices, ext. 1931 KM and ext. 491 LF.



TRIO HONORED—E. R. Peterson, left, Convair vice president-research and engineering, congratulates three employes from his departments on their completion of work for masters degrees. From left, they are Richard S. Grote, Joel F. Brody and Merle J. Aleshire. Grote and Aleshire received degrees from UCLA and Brody his from San Diego State.

Evening College Will Sponsor Six 18-Week In-Plant Courses

Six 18-week San Diego Evening College-sponsored courses, each offering three units credit toward the Certificate of Proficiency in supervision, will be offered at Convair's Lindbergh Field and Kearny Mesa plants next month.

Given at LF will be "Introduction to Supervision" and "Human Relations-B" on Mondays beginning Sept. 16 and "Industrial Economics" on Tuesdays beginning Sept. 17. Classes will be from 4 to 7 p.m. in Bldg. 14.

Courses at KM will be "Management and Organization" Tuesdays beginning Sept. 17, "Human Relations-A" Wednesdays beginning Sept. 18 and "Production Planning" Thursdays beginning Sept. 19. Classes will be from 4:30 to 7:30 p.m. in Bldg. 17.

Instructors will be Hal Rubin for "Introduction to Supervision" and "Human Relations-A," David Chigos for "Human Relations-B" and "Industrial Economics," Bill Chana for "Management and Organization" and W. E. Magnuson for "Production Planning."

Interested employes may register Sept. 9 through 12 at educational services offices. Cost is $1.50 plus textbooks.

Successful completion of 10 courses is required for the certificate. Twenty-five Convair employes have completed half the courses required since the first courses in the program were offered in-plant during the spring 1967 semester. More than 250 employes were enrolled in six in-plant classes in four subject areas in the program last semester.

Program Offers College Credit By Means of Examinations

College-level examination program tests are now being given by San Diego State College and accepted for college credit by State and United States International University.

General examinations measure knowledge in five basic liberal arts areas — English composition, natural sciences, mathematics, humanities and social sciences-history.

Subject examinations measure achievement in specific course areas and are given with or without optional essay sections, in American government, analysis and interpretation of literature, educational psychology, English composition, general chemistry, general psychology, geology, history of American education, introductory calculus, introductory economics, introductory marketing, introductory sociology, money and banking, statistics, tests and measurements, and western civilization.

The general examinations are given on Saturdays, scheduled periodically during the year, and require six hours of test time. Subject exams are given on Fridays and require 90 minutes each, or three hours with the optional essay section.

Additional information may be obtained by calling David Chigos of educational services, ext. 1931 KM.



DEGREE RECIPIENTS—F. J. Hickey, assistant to general manager, Electronics-SD (left) and G. W. Leesch, manager of industrial relations, offer congratulations to San Diego operations employes receiving degrees during 1968. From left is (seated) B. J. Tucker, C. E. Jones, D. M. Borkenhagen, and Harold Dickstein. Standing are Hickey, Leesch, J. H. Getz, D. W. Bentrott, P. W. Allen and J. E. Seean.

SLV-3 to Launch Booster For Space Experiments

Preparations are being completed at Vandenberg AFB for launch of Atlas SLV-3 No. 7004 and a Boeing Burner II second-stage orbiting space booster in a mission that will send ten Space Experiment Support Program (SESP) scientific experiment payloads into four different orbits.

The launch will be the first for an Atlas SLV-3 with a second stage vehicle other than Agena. James L. Minos is Convair program manager and Howard Pearson will be launch conductor for the flight from Space Launch Complex 3-E at Vandenberg.

The Atlas booster being used is a "spare" that originally was scheduled for use in the Air Force's PRIME (precision recovery including maneuvering entry) program. The fourth PRIME flight was cancelled due to success of the first three missions.

Atlas SLV-3 No. 7004 will boost the Burner II to 400-nautical-mile apogee and the Burner's engine will provide additional velocity to send itself and the SESP payloads into circular orbit.

Two of the payloads will remain with the Burner II, which will maintain attitude stabilzation and provide power and data transmission for them.

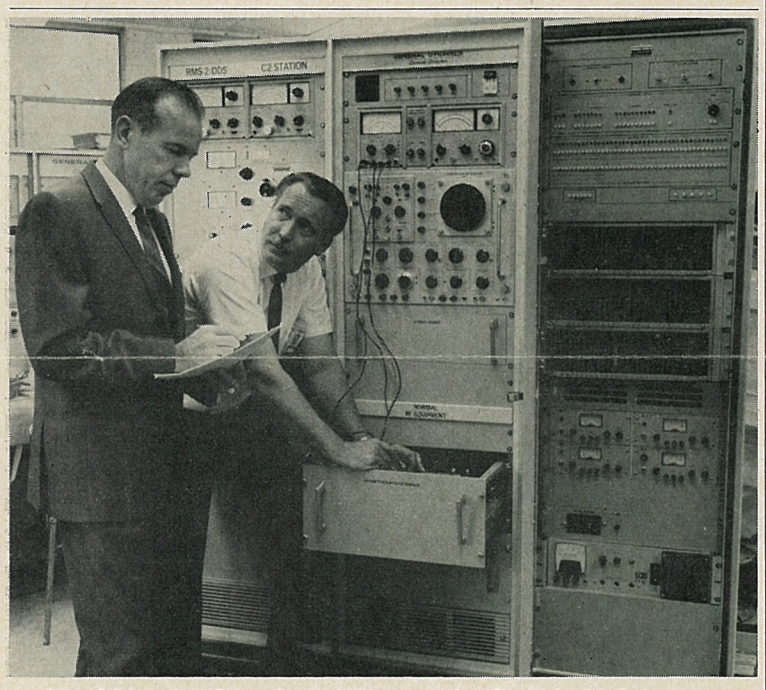
These will be a radio metric sensor, which will use 29 infrared detectors and a TV camera in measuring the fine structure of the earth's background in a selected infrared spectral region, and an ultra-violet radiometer to measure the earth limb radiance gradient in the ultra-violet region.

Three of the other experiments will be transferred to individual orbits by "buses" with solid-propellant or rocket motors and the remaining five payloads will be ejected from the Burner II in the 400-nautical-mile circular orbit.

A 13-man design and product review team from Convair's Kearny Mesa plant was at Vandenberg Aug. 1 and 2 for review of the Atlas booster, launcher and associated ground equipment.

B. J. Apperson of Dept. 966-0 was team captain. Other members, listed by department and area of responsibility, were:

E. E. Frost, 966-0, analysis and development; W. R. Degn, 403-2, operations engineering; J. W. Taylor, 958-4, reliability control; P. S. Yip, 966-3, thermodynamics; J. H. Derango, 963-1, hydraulics; V. C. Walker, 988-3, instrumentation; M. J. Debrecini, 962-2, engine systems; H. E. Harper, 967-2, autopilot; Kenneth Catlin, 967-2, flight control; Ted Shamshoian, 988-7, airborne electrical; C. W. Aulgur, 962-3, pneumatics, and R. S. Stevens, 963-1, structures.



CONSOLE CHECK—C. E. Wilson, left, Convair RMS-2 program manager, and Joe Mehuron, design engineer, check central control station for Army range measurement and data communications system before its shipment to Hunter Liggett Military Reservation. Remaining "hardware" for system will be shipped by end of September.

Central Control Station Shipped For Army Range Data System

A central control station and other initial "hardware" for use in the U.S. Army RMS-2 range measurement and data communications system has been shipped from Convair division's Kearny Mesa plant to the Hunter Liggett Military Reservation in Northern California for installation and checkout.

C. E. Wilson, Convair RMS-2 program manager, said the central control unit and its 30-foot antenna tower and antennas, nine interrogation station and two distribution station installation kits, and a battery charger were shipped last month.

In addition to the central control station, a total of 25 transponder units, 23 interrogation stations, two distribution stations and three test consoles are scheduled for delivery by the end of September.

The RMS-2 system is being produced by Convair for the Army's Combat Developments Command Experimentation Command (CDCEC) for use in field experiments in which effectiveness of combat tactics and present and proposed combat equipment will be evaluated.

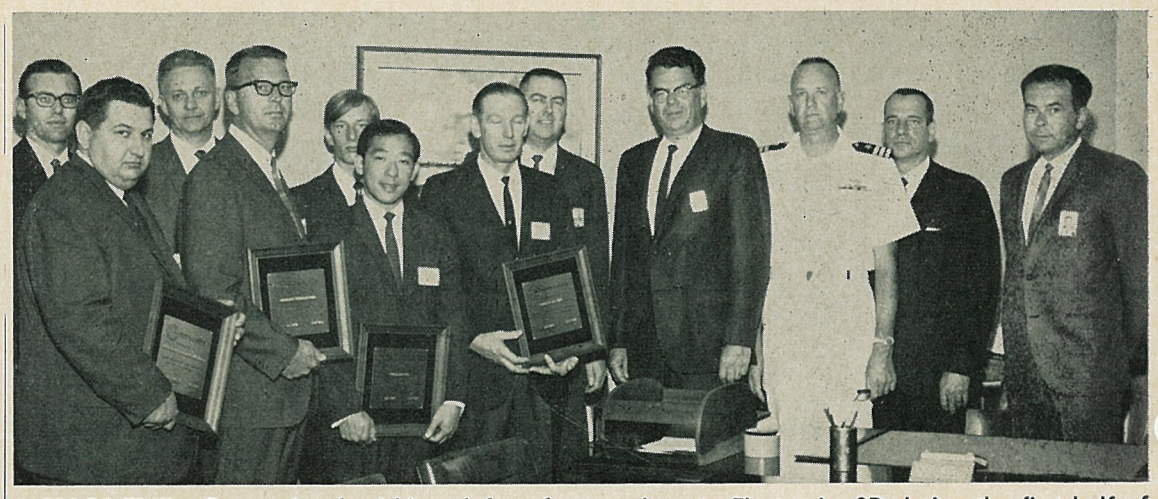
Wilson said the central control unit console will interface with an Army GE-605 computer for transmission and receiving of individually selective range and digital data messages from transponder units in the field at a rate of 200,000 information "bits" per second.

The back-pack transponders and related digital signal message units will be carried by individual soldiers participating in the field experiments or may be carried aboard vehicles or aircraft.

Precise location of each maneuvering transponder unit can be determined within 1/600-second by the RMS-2 system from distance measurements made from three or more interrogation stations at known locations.

Convair RMS-2 personnel who will be assisting with installation and field systems tests include Eric Herz (as Convair site manager and test conductor), Joe Mehuron, Ed Thomas, Willard Cushman, Pete Marenholtz, Joe Garcia, Jim Baggiore and Bob Morrison. Hans Heink will handle on-site material control and administration.

Wilson said each piece of RMS-2 equipment delivered will be run through a complete set of test parameters by Convair personnel at Hunter Liggett.



ERROR-FREE—Companies furnishing defects-free products to Electronics-SD during the first half of 1968 were honored recently, and presented plaques by Don C. Prim, manager of San Diego operations. Present at ceremonies were: (left) Ron Brant, Zero Defects committee; J. P. Ward, Syracuse Insulated Wire and Cable Co.; G. G. Prentice, manager of operations; W. M. Price, Cambridge Thermionic Corp., J. Paulson, son of R. Paulson; W. E. Wong, Furance Plastics; R. Paulson; Hermionic Seal Co.; R. H. Nicholson, manager of quality Control; Prim; Cdr. M. Brown, Commander, DCAS Division, San Diego district; Hal Gorge, DCAS quality assurance representative, GD; W. J. Wilkinson, DCAS division chief.

Scanlon Will Head Accounting Chapter

J. F. Scanlon, manager of industrial accounting (Dept. 193) for Convair division, has been elected president of the San Diego chapter of the National Association of Accountants (NAA) for the 1968-69 year. Clark Welsh, Corporate staff assistant at Lindbergh Field, is a director.

John D. Milling, Convair controller, will discuss "Compliance with Department of Defense Cost/Schedule Control System Criteria" Sept. 11 at a meeting of the chapter in the Town and Country Hotel.

Phone Directories Due Out Next Week

New Convair division telephone directories will be distributed next week. The new directory will have the same cover design, including aerial photographs of division plants, as the previous directory—but will have its cover printed on tangerine color stock.

D. B. Zink, supervisor of office services, said all employes are urged to familiarize themselves with the directory and with dialing instructions, some of which have changed since the previous edition was published.

Analytical Methods Class Under Way

Fifty-six Convair employes are enrolled in two sections of an "Analytical Methods-1" course at Kearny Mesa under a special in-plant evening program sponsored by United States International University.

The course is one of nine required for the master of science in management science degree. The program is designed to prepare employes for positions requiring quantitative methods in problem solving. Tuition costs are being paid by the division.

MANY ATTEND SHORT COURSES

A total of 148 Convair division representatives attended technical and management short courses and seminars sponsored by colleges and universities, technical organizations and industrial and research firms during the first six months of this year.

Electronics-SD Suppliers Honored For Zero Defects Performance

Five product suppliers to Electronics-SD were honored recently at the second Supplier Zero Defects award presentation, by R. H. Nicholson, manager of quality control.

Representatives of the five companies were presented plaques during ceremonies preceding luncheon in their honor.

Don C. Prim, manager of San Diego operations, stated that the awards, presented for defects-free performance during the first six months of 1968, were significant in demonstrating cooperation between company and suppliers.

"It is imperative, with today's highly complex products for aircraft and space application, that we receive defect-free parts from our suppliers," he said. "Costs, reliability and high performance standards leave no room for faulty materials."

Cdr. M. M. Brown of DCAS headquarters in San Diego added his praise and emphasized the added importance that the Department of Defense places on Zero Defects performance.

Also marking their accomplishment was G. G. Prentice, manager of operations, who emphasized that the wide range of products furnished including wire and cable, seals, plastics, epoxies, terminals and ferrite cores were important to the company's operation.

Companies receiving awards were: Cambridge Thermionic Corp., Cambridge, Mass.; Furance Plastics, Los Angeles, Calif.; Hermetic Seal Corp., Rosemeade, Calif.; Micro Metals, Inc., Sierra Madre, Calif.; and Syracuse Insulated Wire and Cable Co., Weedsport, N. Y.

Second Quarter Cost Avoidance At Lindbergh Totals $467,000

Lindbergh Field plant cost avoidance totaling $467,000, of which $261,000 was attributed to the material department, brought commendations and "Big Nickels" to six material department employes at the end of the program's second quarter this year.

They are: T. E. Barker, senior buyer; A. R. Hermann, senior buyer; G. G. Fields, material release analyst; H. H. Brown, technical buyer; M. Swinney and C. Lent, material project coordinator/analysts.

Convair instigated Lockheed's Big Nickel award program last January to give recognition to those working on the C-5 who have significantly contributed to cost avoidance through suggestions or cost reduction projects.

The cost avoidance accomplished by the material department was associated with the procurement of C-5 subcontract parts and raw material.

Other Big Nickel award winners for employe suggestions in the second quarter were: L. Daniels, J. K. McDonough, C. D. Monds, J. M. Linde and F. T. Tarantino, Dept. 015; F. A. Gordon, A. J. Nichols, J. Caldwell, R. O. Funke, H. E. Gaugh, C. R. Mansfield, R. M. Sieveno, S. C. Brogan and J. D. Volkov, Dept. 045.

Big Nickel awards for cost reduction projects were also made to: H. A. Mohr, Dept. 001; J. J. Loperena, Dept. 059; C. E. Rice, L. W. Stamper and E. E. Carpenter, Dept. 019; E. Caldwell, Dept. 140; L. C. Stuckey, Dept. 149; J. T. Berthelet, Dept. 170; E. E. Farthing, Dept. 400; G. K. Phares, Dept. 401; G. Lundquist, Dept. 491; R. B. Riggan, Dept. 511; C. L. Hibert, Dept. 561; and E. A. Zivolich, Dept. 566.

"I am pleased with the results this second quarter in the direction of cost avoidance," said R. W. Miller, C-5 program manager. "These savings show the interest that has been taken in helping make the C-5 empennage program a profitable one for Convair, and we hope this interest will continue to be shown in the suggestions made this third quarter."



MATERIAL SAVINGS—Members of material department receive commendation from C. G. Keach, manager of material, LF (right), and "Big Nickel" awards from R. W. Miller, C-5 program manager; for their C-5 cost avoidance projects totaling $261,000. Left is Miller; T. E. Barker, senior buyer; A. R. Hermann, senior buyer; G. G. Fields, material release analyst; H. N. Brown, technical buyer; M. Swinney, material project coordinator/analyst; C. Lent, material project coordinator/analyst; and Keach.

Elbert Smith Wins First Place Medal in Masters 440-yd. Run

One of Convair's six participants in last month's first annual U.S. Masters Championships track and field meet brought home a first-place medal.

Elbert B. Smith, 52, supervisor in launch vehicle programs estimating Dept. 954-2, took the first place award for his age division (50 and over) in the 440-yard run.

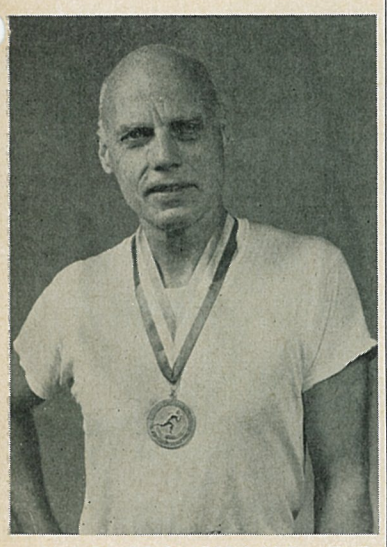
Three hundred runners from 22 states, all 40 to 70 years old, competed in the meet. All events were held at Balboa Stadium except the marathon, which was run at Mission Bay.

Other CRA Health Club and Convair Management Club representatives, listed by events entered, were W. J. Dawsey, 100-yard dash; Art Lewis, 440 and 880-yard runs; Fred Minter, mile run; Charles Adkison, six-mile cross country run, and Bill Walker, three-mile and six-mile cross country runs.

Smith has been running regularly for two years—usually running a mile at noon each weekday at the Health Club and sometimes as much as five miles at the beach on weekends.

"I've always felt if a guy keeps in shape he can do a lot more things," he says.

Next year's Masters Championships have been scheduled July 3 through 6 in San Diego. A larger representation from CRA and the Management Club is anticipated.



MASTERS' CHAMP—E. B. Smith of Convair's Dept. 954-2 displays first place medal he won in quarter-mile run at recent U.S. Masters Championships.

Bonair Group Plans Fly-in to Catalina

Bonair Flyers have scheduled a fly-in to Catalina Island, Aug. 25. Planes will leave from several local airstrips at 9 a.m.

The group plans to arrive on Catalina at 10 a.m. and will enjoy brunch at the airport. Bus tours and service to the city of Avalon will be available to those who wish to see the sights.

Cost of the trip will depend on the type of plane and number of passengers in the plane.

Red Taylor, Bonair Flyers commissioner, said the trip is not restricted to club members but is open to anyone interested. Dave Druif at KM ext. 1453 is taking reservations.

Horsemen Plan All-Day Show

Junior and adult horsemen will vie in an all-day open horse show at the CRA ring Sunday, Aug. 25.

The show, sanctioned by the Horsemen's Executive Council and Southern California Gymkhana Association gets under way at 8:30 a.m. with gymkhana events. Equitation competition will be in the afternoon.

High point winners in both divisions will be awarded trophies with a trophy and ribbon going to winners of each class. Ribbons will be presented through sixth in open and tenth in junior competition.

Morning gymkhana will be judged by Virgil Selph. Jack Copeland, breeder of quarter horses from Escondido will judge afternoon equitation. Gerry Washburn is show manager.

Entry fee of $1 for each class will be reduced to fifty cents for those who turn out at 9 a.m. Saturday for a work party to get the riding ring in shape.

Call Judy Watson at 277-0798 or Clyde Donahoo at 277-0371 for information.

Wagner Winner In Rifle Shoot

Bob Wagner took two firsts and wound up overall high aggregate winner in the Senior Rifle Club championship shoot July 28 at Gillespie Field range.

Firing ten rounds in each position from the fifty yard line, Wagner took trophies in prone and sitting events and a runner-up medal in kneeling. Nick Kourbelas was first in offhand and CRA Rifle Club Commissioner Dick Zeich won a trophy in kneeling. Zeich was also runner-up in both offhand and sitting position firing. Kourbelas' wife Trudy took a second place medal in prone.

Zeich said the Gillespie Field range is open to the public from 11:30 a.m. to 5 p.m. on Saturdays and 11:30 a.m. to 4 p.m. on Sundays, with a range supervisor on duty both days. Shooters pay a nominal fee for use of range facilities.

Senior shoots are held regularly the second and fourth Wednesday at 7 p.m. and Junior Rifleers shoot the first and third Saturdays at 9 a.m.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is Aug. 20. Call ext. 1071 LF or 3322 KM. All meetings are held in CRA Clubhouse unless otherwise noted.)

ADVENTURERS—Meeting Aug. 21, 7:30 p.m. Labor Day weekend trip to high Sierra.

BICYCLE CLUB—La Jolla, Pacific Beach, Clairemont 25-mile ride, Aug. 24.

BONAIR FLYERS—Fly-in to Catalina Island, Aug. 25. Call Dave Druif, ext. 1453 KM for information.

BOWLING—Winter league organization meetings, Aug. 26-30. Call Jim Hayman, ext. 1157 LF.

CAMERA CLUB—Meeting, Aug. 18, 7:30 p.m., Photo Arts Bldg., Balboa Park.

COINEERS—Meeting tonight 8 p.m., Lindbergh Field cafeteria.

FISHING—Surf fishing trip to Torrey Pines Beach Park, Aug. 24. Meeting Aug. 20, Gillespie Field Clubhouse. Potluck 6:30 p.m.; meeting 7:30.

GOLF CLUB—Tournament Aug. 24-25, San Carlos.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Monday through Friday; 10 a.m. to 5 p.m. Saturday.

ICE SKATING—GD family skate night Thursday, 6:15-7:45 p.m., Mission Valley Ice Arena.

MINIATURE RAILROAD—Operating sessions Saturday, Sunday and holidays, CRA Missile Park.

PISTOL CLUB—Shoot Aug. 25, 9:15 a.m., S.D. Police Pistol Range.

RIDING CLUB—Open show, Aug. 25, CRA riding ring.

RIFLE CLUB—Senior shoots, second and fourth Wednesday, 7 p.m. Juniors shoot first and third Saturdays, 9 a.m., Gillespie Field Range.

SQUARE DANCE CLUB—Dance 8-10 p.m. each Thursday. Beginner 16-week course starting Sept. 17.

SPORTS CAR CLUB—Meeting tonight, 7:30 p.m., Convair executive dining room, Lindbergh Field.

STAMP CLUB—Meet second and fourth Thursday, 7:30 p.m.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m.

TROPICAL FISH—Tour of Sea World Aug. 19, 7:30 p.m.

WIVES CLUB—Business meeting and luncheon, Aug. 21, 11:30 a.m. at Harold's Fifth Avenue restaurant.

Chargers Tickets On Sale, $6, $4.50

Reserved seats to the two remaining preseason games of the San Diego Chargers are available at all employe services outlets and the CRA Clubhouse. Tickets are priced at $6 and $4.50 with no discount.

Tickets will be available for home games throughout the regular season beginning with the Sept. 6 league opener with the Cincinnati Bengals.



NEW ENTRYWAY—Entrance to CRA Missile Park at Kearny Mesa now is marked by new plastic and wrought-iron sign, with side panels listing park hours and rules. Pictured leaving park are Roger Jett, Dept. 519-0, his wife, Pat, and their children (from left) Susan, 13, Leslie, 6, and Doug, 11.

BILL DITTMANN AGAIN DEFEATS SUTTON

For the second consecutive shoot, Dick Sutton was edged by Bill Dittmann in Expert class of Pistol Club competition.

Dittmann who beat Sutton July 14 by one point repeated at the July 28 shoot firing 269 to Sutton's 268.

In Master class action, Harry Black fired 285. Warren Walker won the Short National match with a 282 and was runner-up to Black with 278 in Master class.

San Diego Police Pistol Range will be the site of next club shoot, Aug. 25, 9:15 a.m. Call Walker (days) at ext. 1104 LF or Roland Schneider (nights) LF ext. 1564 for information on club activities.

Winter Keglers Set Organization Mtgs.

Organization meetings for bowlers in CRA winter keg loops will be held the week of Aug. 26-30 at lanes where leagues will bowl. Play gets under way the following week. Meetings begin at 7 p.m. on each scheduled bowling night.

Jim Hayman, CRA bowling commissioner said some interest has been shown for organization of a swing shift league. However, he said more bowlers are needed before one can be formed. Call Hayman at LF ext. 1157 or Mike Brooks at ext. 1673 KM for information on bowling activities.

Tuition Refund Plan Assists Students

Convair division employes going "back to school" to earn advanced degrees in their career fields can receive substantial financial assistance through the division's tuition refund program.

Tuition costs for job-related, college-level courses can be reimbursed to a maximum of $225 per calendar year. Employes in approved graduate-level study programs also are reimbursed for 75 per cent of all tuition costs above the $225 limit.

Last year, 790 employes received $52,367 from the division in tuition refund payments. During the first six months this year, $33,500 was paid to employes under the program.

Fish Club Members Will Try Surf Sat.

Fishing Club members, "experts" on the local lakes, will try their hand at ocean surf fishing Saturday, Aug. 24.

The report is that surf fishermen have been reaping a harvest of corbina so the club has planned a trip to Torrey Pines Beach Park to find out for themselves.

A business meeting and potluck is on tap for Aug. 20 at the Gillespie Field Clubhouse. Potluck is set for 6:30 p.m. followed by the meeting at 7:30.

Golf Tourney Site Changed to San Carlos

Location for CRA Golf Club's August 24-25 trophy and awards tournament has been changed to the San Carlos Country Club.

Del Dimmitt, commissioner, said the tournament was scheduled for Tijuana Country Club but has been changed due to current conditions of the turf there.

Play at San Carlos will begin at 7:07 a.m., Aug. 24 and 6:30 a.m. Aug. 25. Starting times may be reserved by calling ext. 511 LF.

Tour of Beach Area Slated by Cyclists

CRA Bicycle Club members will make a 25-mile tour of La Jolla, Pacific Beach and Clairemont on Aug. 24.

The group will meet at 9 a.m. at the Security First National Bank, 4002 Clairemont Mesa Blvd., ride to the UCSD campus via San Clemente Canyon and La Jolla Scenic Drive, and pedal through La Jolla Shores and Pacific Beach before returning along Balboa Avenue and Clairemont Drive. Ride leader is Dave Lukens, ext. 2881 KM or (home) 277-7350.

Adventurers Plan Sierra Weekend

A trip to the high Sierra is in the offing for CRA Adventurers over the Labor Day weekend in the Kennedy and Monatchee Meadow primitive area. Four-wheel drive vehicles are mandatory to reach the Monatchee site.

All interested employes are invited to attend a meeting August 21 in the CRA Clubhouse where trip plans will be finalized. Two color movies will be shown and refreshments served.

Daughter Attends Science Seminar

Mary Anne Masterson, 14-year-old daughter of Michael F. Masterson of Convair's Dept. 986-4, was among 24 specially selected 10th grade students who recently attended a two-month aerospace sciences seminar at the Aerospace Museum in Balboa Park.

The summer enrichment course enabled the students to study some of the scientific and technological aspects of satellites and space flight. Mary will be a student at Clairemont High this year.

LF In-Plant Parking Spaces Redefined

In-plant parking spaces at the LF plant have been redefined with white lines and parking will be permitted only in these spaces.

Cars parked outside white-lined spaces will be ticketed and drivers subject to withdrawal of in-plant parking privileges.

Wives Club to Hold Business Meeting

Convair Wives Club will hold its monthly business meeting and luncheon at 11:30 a.m. Aug. 21 at Harold's Fifth Avenue restaurant, 2424 Fifth Ave.

Hostesses will be Mrs. Robert Browning, Mrs. Lewis Chapman and Mrs. Walter Dibblee Jr.

Reservations should be made by 3 p.m. Aug. 19 by phoning Mrs. "Chick" Allen, 583-2868, or Mrs. L. F. Klepach, 264-1013. Prospective new members and friends are invited.

The club's potluck luncheon and crafts session will be held Aug. 28 in room "C" at CRA Clubhouse. Phone Mrs. John McIntyre, 277-6922, for information.

Coineers to Meet In LF Cafeteria

Convair Coineers will meet at 8 p.m. today (Aug. 14) in the Lindbergh Field cafeteria with Joe Garside, a member of the club, presenting slides on coins.

The meeting is being held one week earlier than usual so it will not conflict with the American Numismatic Association convention in San Diego.

FISH CLUB PLANS SEA WORLD TRIP

Members of the CRA Tropical Fish Club will be given a tour of Sea World by the assistant curator at 7:30 p.m. Monday, Aug. 19. The tour will take the place of the club's regular meeting. Club membership passes will provide admission.

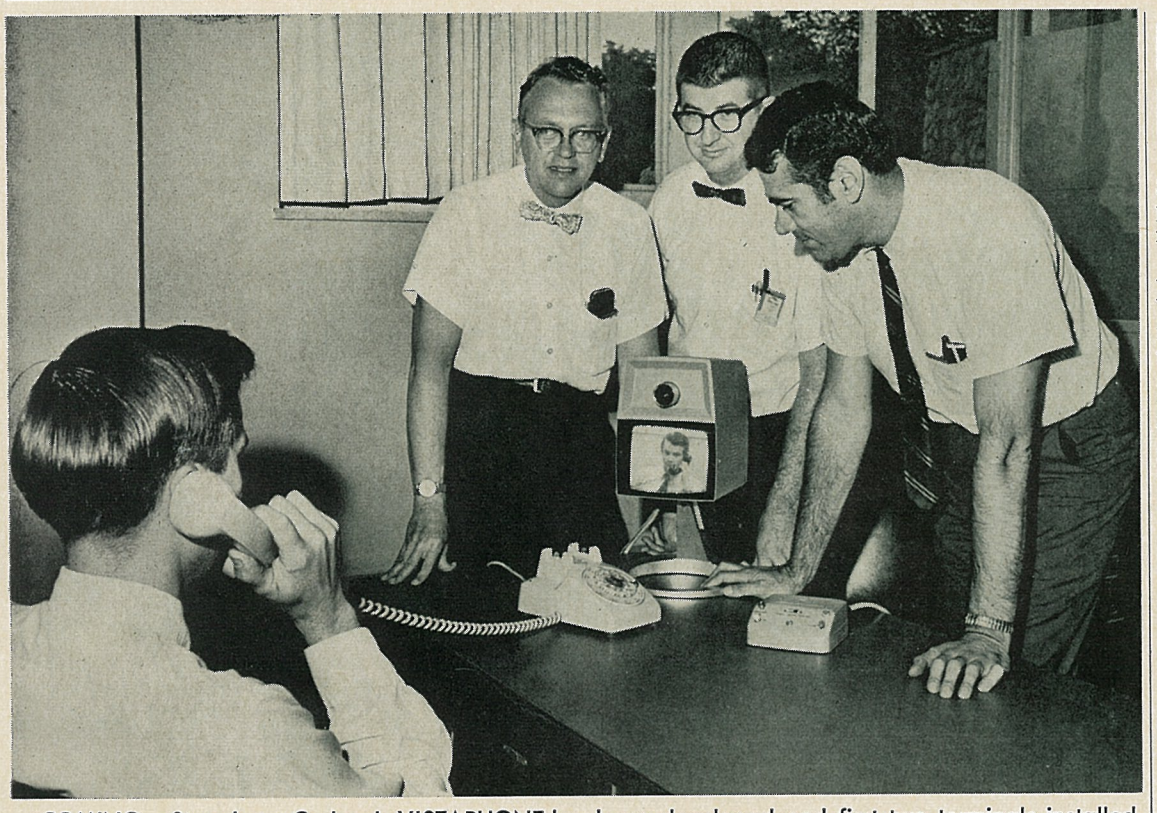
FLYERS TO TOUR CONTROL CENTER

Bonair Flying Club members will have an opportunity to see how air traffic is routed and controlled when they tour the Air Route Traffic Control Center (ARTCC) at Miramar Naval Air Station, Aug. 20.

Salvage Schedule

Next employes sales day at the Convair salvage yard, Lindbergh Field plant, will be Saturday, Aug. 17. Hours are from 8 a.m. until noon. Entrance is by badge. Children and pets are not allowed inside the yard.





COMING—Stromberg-Carlson's VISTAPHONE has been developed and first two terminals installed. Equipment is being considered as part of elaborate communication system planned for Disney World in Florida.

First 'Vistaphone' Units Installed at Rochester

The first two installations of a Stromberg - Carlson "picture phone" network went into service recently.

Developed in research and advanced development and called VISTAPHONE, the equipment makes it possible for the users to see the person to whom they are talking on a video screen. It provides the capability for future graphic presentations for many of the exotic features that will be forthcoming in telephony in future years.

The first two terminals were installed in the offices of Dause L. Bibby, Stromberg-Carlson president, and Sherman W. Weiner. Another eight are expected to be in service by fall.

Stromberg - Carlson VISTAPHONE provides hands free service. A three-position switch makes it possible for the user to monitor the screen by displaying his own picture, to transmit and receive the video and to lock out video transmission.

Developed under Project Engineer Carter Perkins with Don Rimlinger and Koho Ozone as circuit designers, the system can utilize standard telephone cable for distances of less than a mile without added circuitry. Beyond that point repeaters are required.

Frank Leicht is senior engineering aide on the program with packaging by Harvey Prace utilizing some original design work by Bob Collier.

The Charlottesville plant PAX for 10 stations is being used in the experimental system. A reed relay matrix, developed under Adam Jorgensen and providing wideband capability, was added to the PAX. Frank Potter handled this system's adaptation.

"We expect that development of this new terminal equipment," Barrie Brightman, manager-advanced development and research, said, "will lead us into further advancing our switching capabilities. VISTAPHONES require wideband switching and we are working on this new capability. VISTAPHONE goes hand-in-hand with our CROSSREED electronic switching network."

While this new development is still some time away from being marketed, it makes possible many new services and already is being considered as one of the key features for the new Disney World communications system in Florida.

With VISTAPHONE it will be possible for shopping to be done by telephone with the subscriber able to see the wares available. It could be used for remote monitoring, for facsimile news, for programmed educational services, and for other services not yet foreseen.

Navy Version of F-111 Performs Perfectly in Carrier Operations

The Navy version of the F-111 made a successful debut aboard the USS Coral Sea last month.

"No significant problems were observed during 10 catapult launches followed by arrested landings," said Bill Shryock, F-111B program director who was aboard the carrier.

LCdr Richard A. Barnes and Lt. Roy R. Buehler, Navy test pilots, flew F-111B No. 5 from the carrier which was cruising off the Pacific coast near Monterey, Calif.

Each of the pilots made five takeoffs and arrested landings as well as four touch-and-go landings each during the two hours of flight operations aboard ship. In addition, a total of eight approaches to a waveoff were also made.

The aircraft remained aboard the carrier overnight. During this time, Navy crewmen tried the F-111B out "for size" on the flight deck, the elevators, and in the hangar deck.

"The F-111B was handled with relative ease," Shryock said. "We heard several comments from Navy crewmen that it had much better deck handling characteristics than other comparable-size carrier aircraft."

Shryock said the Coral Sea is a Midway class attack carrier, which is smaller than the larger Forrestal class from which the F-111B was primarily designed to operate.

Shryock said it was "unusual for a new Navy aircraft to have only 'minor maintenance discrepancies and no structural or mechanical failures whatsoever' during its first carrier flights.

"It's also significant that No. 5 was not equipped with the more powerful engines, improved cockpit arrangement and redesigned high-lift system slated for the production version of the F-111B."

The aircraft made arrested landings at weights equivalent to an F-111B landing with six missiles and several thousand pounds of fuel aboard.

Each of the Navy test pilots had logged only about 12 hours of flight time in the F-111B before landing on the Coral Sea.

"Normally," Shryock said, "Navy pilots get 35 to 50 hours in a plane before flying it from a carrier. This is an indication of how well the F-111B handled during the approaches."

Weather conditions were not ideal for the tests, at least at the start, Shryock pointed out. Ceiling was about 300 to 400 feet and visibility from 1½ to 3 miles. Wind-over-the-deck was about 30 knots.

"Overall," Shryock said, "we felt the tests were completely successful in all phases — launching, arresting, and deck handling qualities while aboard."

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

GREGORY R. BIGADZA (1958) from Convair division to Stromberg-Carlson, Rochester as production projects coordinator; **RONALD H. VODIAN** (1967) from Convair to planner/engineer, Electric Boat; **WILLIAM S. MORGAN** (1947) from Quincy to Electric Boat as senior ship superintendent; **DOMINICK A. MUNIZZA** (1956) from Convair to Canadair Ltd.; **CHARLES E. HISAW** (1954) from Electronics-SD to quality control engineer, Stromberg Datagraphics; **JAMES W. WHEELER** (1954) from Electronics-SD to Datagraphics as manufacturing analyst; **SAMUEL J. LOMBARDO** (1959) from Electronics-SD to engineering drawings checker, Datagraphics; **VERNON O. WORRELL** (1959) from Convair to Electronics, Rochester; **HARRY C. McINTYRE** (1961) from Convair to Stromberg-Carlson; **LESLIE E. ENZ JR.** (1956) from Convair to Electronics, Rochester.

Savings and Stock Investment Plan Open For New Members or Fund Changes

Enrollment in General Dynamics Savings and Stock Investment Plan is "open" this month for new members or changes in existing plans.

Employes who have established eligibility by being with the company a full year, can sign during August for membership to be effective for the quarter beginning Oct. 1.

Present members of the Plan wishing to either change their investment option or percentage of savings can also make application this month. Forms and additional information are available at employe services.

15-Year Plan

Exotic Communications System In Store For Disney World

When Disney World opens in Florida in the 1970s, the backbone of the operation is expected to be "Total Communications" — complete with VISTAPHONE and other exotic services of the future.

Florida Telephone Corp. of Leesburg, Fla., with assistance from Stromberg-Carlson personnel, presented to Disney World officials in California a communications system plan in keeping with Disney's imaginative style of operations.

A three-phase plan for getting the job done at Disney World over the next 15 years was set forth. Cost of the communications project is expected to exceed $75 million.

Disney World will be located between Winter Garden and Kissimmee, Fla.

Max Wettstein, president and general manager of Florida Telephone, described a vast underground communications highway which will connect all units of the Disney World complex and carry the total communications traffic of the entire project.

Stromberg-Carlson's participation at the California meeting was headed by President Dause L. Bibby.

One of the many features of the system at Disney World will be a VISTAPHONE operation. But that's only one part. Florida Telephone also expects to offer:

Computerized, automatic instant time and charges for motel guests.

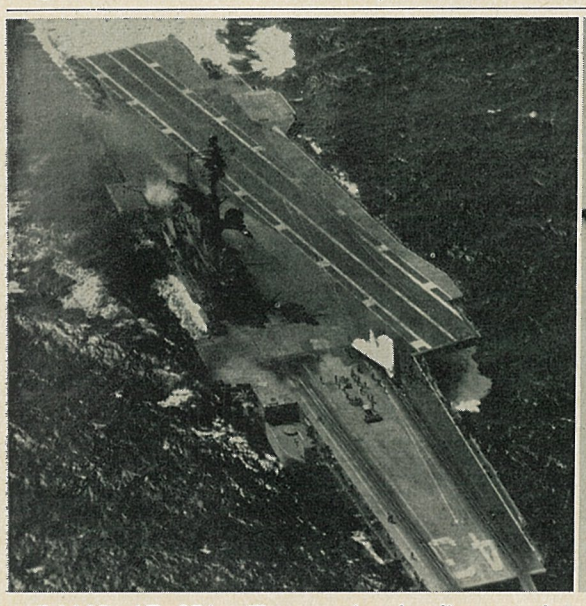
Facilities to introduce cashless society concepts.

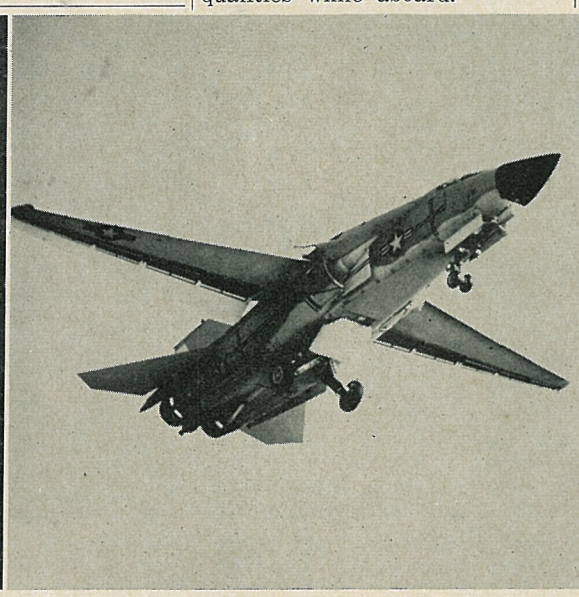
A fully developed underground distribution system designed for growth.

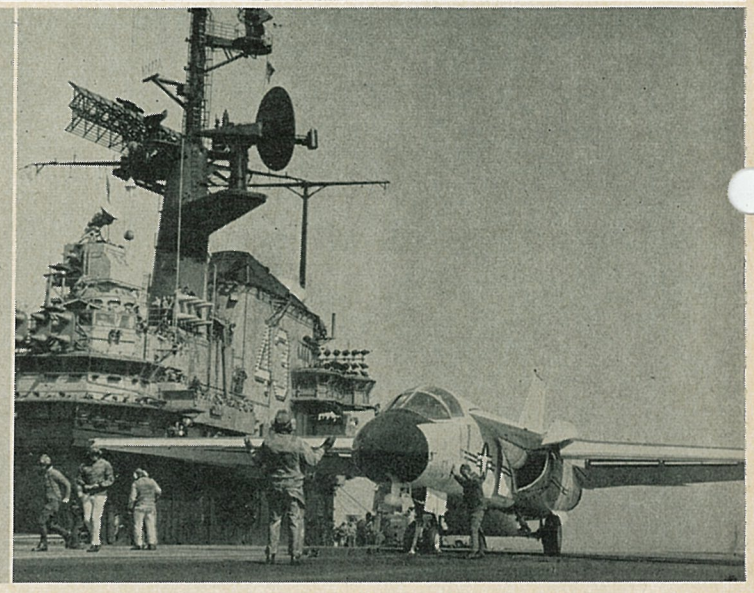
And, as the big program moves into phase II and III, visitors at Disney World will see what they can expect in telephone service in the 1980s. Stromberg-Carlson has some of these services already available such as custom calling services including call transfer, call waiting, conference calling and speed calling.

A video library service will permit a subscriber to push a button for a selected movie, a sporting event he may have missed, or an operatic concert that he may wish to see as well as hear. The selected program will be displayed at its communications terminal which will be his entertainment center as well as his information center. This communications terminal — called a telephone today — will be designed so that it may be expanded in the future to include other new services.

Even for visitors to Disney World, the communications network will play a major role. A computerized system will direct you to a parking place and when you are ready to leave, the same system will help you find your car.





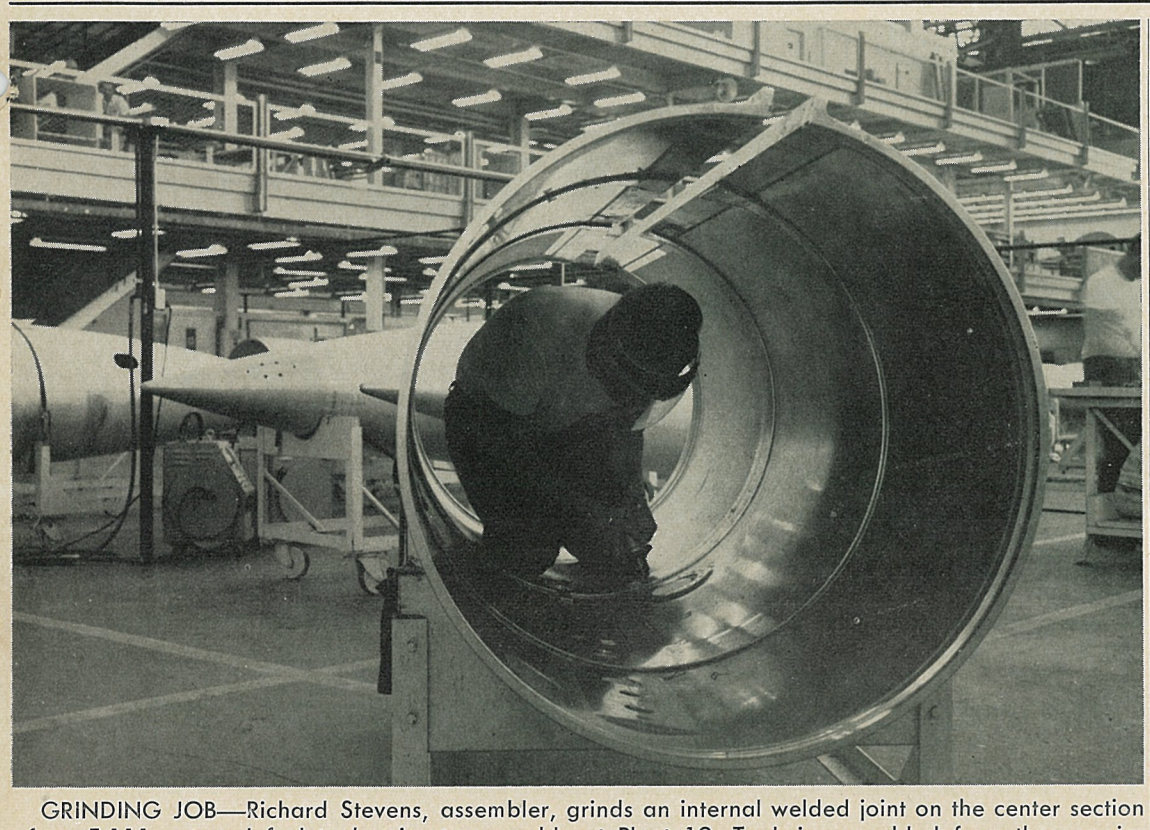


F-111B AT SEA—First carrier landings and takeoffs were accomplished by F-111B last month in Pacific with USS Coral Sea. Pilot was LCdr. R. A. Barnes, USN, Naval Flight Test Center. Aircraft flew from Edwards AFB to carrier off Southern California coast.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 18 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, August 28, 1968



GRINDING JOB—Richard Stevens, assembler, grinds an internal welded joint on the center section of an F-111 external fuel tank prior to assembly at Plant 19. Tank is assembled from three major sections, nose, tail and center.

Assembly Line Arranged For F-111 Tank Task

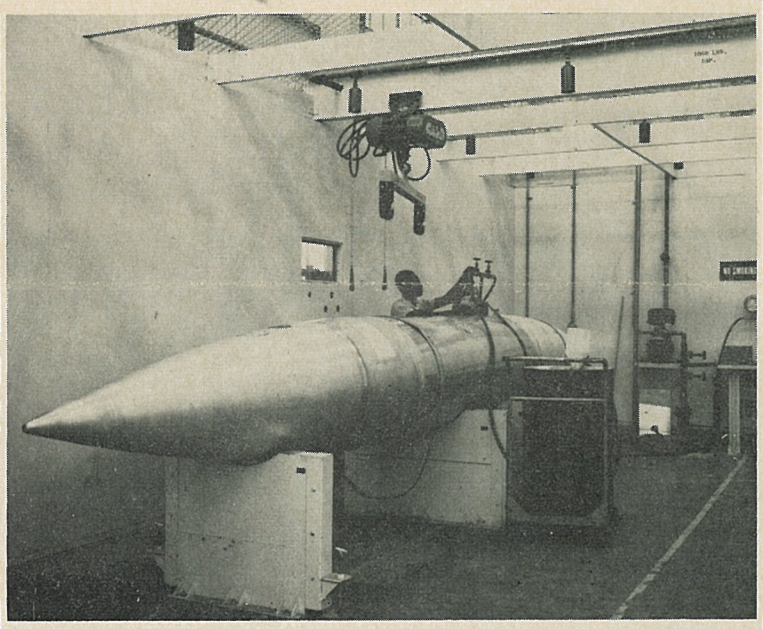
F-111 external fuel tanks, formerly in limited production at LF plant under an R&D program, are now being manufactured at Plant 19.

"Our new production area in Bldg. 2 at Plant 19 is more efficient than the one at Lindbergh Field," said R. A. Davis, foreman of external tank production. "We have an orderly assembly line arrangement, and are able to do all assembly, inspection and testing in one area. The only outside work is stenciling and painting."

The new facilities, recently completed and put into operation, include dye penetrant and X-ray inspection, and tank pressure testing, eliminating the need to send tanks outside the area for work.

Three welding units are used at the new location. One is for welding the rings to the tank center section and another for welding the center section clamp bars. The third is used for welding nose and tail cones.

Production is expected to peak sometime next year.



UNDER PRESSURE — Lee Stokes, tank tester at AF Plant 19, monitors testing of completed F-111 external fuel tank. Tank is pressure-tested with air and checked for leaks, then filled with solvent and tested under pressure.

Convair Antenna Test Scheduled

A Convair-developed self-expanding antenna section will be deployed in simulated space environment for the first time during an 11-month study and test program being conducted by the division under a $100,000 contract from NASA's Marshall Space Flight Center.

John A. Fager of Convair's Dept. 586-1, program manager, said one of the study's major tests will include construction and packaging of a full-size tetrahedral element for a 70-foot antenna and its deployment in a large vacuum chamber at the Kearny Mesa plant. The element will have tubular sections that are about nine feet long when expanded.

The self-erecting antenna concept, developed by Desmond H. Vaughan of space structures Dept. 512-2, utilizes a series of internal springs and hinges for compact packaging and expan-

(Continued on Page 2)

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

★ ★ ★

Q—Can anything be done to establish a credit union?

A—Credit unions generally are established to permit members to borrow at a reasonable rate and afford a means of saving with profitable return. Today, with keen competition among financial institutions, loan rates are competitive with credit unions and in some instances lower. Convair's payroll deduction industrial allotment plan offers a convenient means of saving.

★ ★ ★

Q—Can the exhaust fan in Dept. 400-3 be fixed so that it doesn't bang like an Indian drum?

A—This sound occurs in ventilating ducts when the sudden starting of the fan causes a change of air pressure flexing the flat sheetmetal panels.

★ ★ ★

Q—What about painted parking lines for the KM lots, with double lines between cars so we have more get-in and get-out room?

A—With the adequate parking available at KM—even a surplus—additional marking is not considered justified at this time.

★ ★ ★

Q—Facilities for maintaining physical fitness are excellent at the KM plant. However, these are lacking at the

(Continued on Page 2)

Anti-Submarine System Award Won by Convair

Selection of two contractors—Convair division of General Dynamics and Lockheed California Corp. (teamed with LTV Aerospace Corp.)—to perform Contract Definition effort for the VS(X), development anti-submarine weapon system, was announced recently by the Naval Air Systems Command.

Contracts totaling approximately $19 million will be awarded in the near future.

Competition for the awards began late last year.

The VS(X) is envisioned as a carrier-based anti-submarine warfare aircraft to replace the S-2 Tracker, a twin reciprocating engine plane which has been in service more than 15 years.

The Navy release stated:

"The VS(X) will be powered by high bypass turbofan engines and will be capable of speeds and ranges twice that of the S-2. The use of digital computers will enable the four-man crew to perform its mission at least ten times as effectively as at present. The computer will be able to analyze underwater sounds and other required sources of information and present the data on television-like displays for interpretation. By automating routine jobs the crew will be left free to analyze the data and make more thoughtful decisions."

★ ★ ★

In commenting on the award, Jack L. Bowers, Convair division general manager, said, "Convair is proud to undertake a substantial role in development of the U. S. Navy VS(X) carrier-based anti-submarine warfare aircraft.

"This initial contract definition study award gives Convair the opportunity to become prime contractor on one of the Navy's most urgent projects.

"The announcement, coupled with the award to this division on 17 July 1968 of a similar contract on the Navy's VFX fighter aircraft is of great significance to Convair and San Diego.

"These awards are a result of our effective response to Navy requirements, but they also came about because of our long and close association with the Navy; our ideal location in San Diego, a key fleet, air and ASW center; and the performance of our employes on other complex military systems.

"We know that the Navy's ASW needs are great—as the submarine threat continues to accelerate, and development of a new airborne component in the force structure designed to seek out and destroy enemy undersea craft, incorporating the most effective and reliable systems available, has become one of the most pressing demands facing fleet commanders. We intend to satisfy that demand."

* * *

Boteler Heads VS(X) Project

Earl W. Boteler, a Convair veteran of 17 years, has been named director of the VS(X) project, reporting to Jack L. Bowers, general manager of Convair division.



E. W. Boteler

Boteler has been in charge of the division's VS(X) efforts for the past three years. His assignments since joining Convair in 1951 have been: military aircraft manager, Centaur systems development director, chief of advanced systems technical development and chief of

(Continued on Page 2)

Col. Merz Reports For Duty As New Head of DCAS Office

Col. Charles F. Merz, USAF, a graduate of the U.S. Naval Academy and former deputy director of procurement and production at USAF Military Airlift Command (MAC) headquarters, this week became commander of the Defense Contract Administration Services plant representative office at Convair division.

He succeeds Col. James R. Ourand, DCAS plant representative for the past three years who has been named director of contract administration for the USAF Contract Management District in Los Angeles.

Colonel Merz officially assumed his new duties in ceremonies attended by DCAS personnel Monday at the Kearny Mesa plant. Orders implementing the change-of-command were read by Capt. Vernon Karlin, DCASPRO project officer.

(Continued on Page 2)



RESIDENT REP—Col. Charles F. Merz, right, new Defense Contract Administration Services plant representative at Convair, is welcomed by Jack L. Bowers, division general manager. Col. Merz assumed new duties Monday at Kearny Mesa plant.

Col. Merz Reports For Duty As New Head of DCAS Office

(Continued from Page 1)

Colonel Merz had been assigned to MAC headquarters at Scott AFB, Ill., both as a procurement staff officer and deputy director of procurement and production, since June, 1964.

He was an assistant professor of air science for the Air Force Reserve Officers' Training Corps at Purdue University in Indiana from 1960 to 1964 and previously served 2½ years in Weisbaden, Germany, as commander of the Air Force Exchange Service covering Germany, France, Holland and Italy.

Colonel Merz in September, 1957, completed a 3½-year assignment at Air Materiel Command headquarters, where he headed procurement activities for fighter fire control systems and autopilots and was executive to the deputy for production.

During World War II, he served in the U.S. Navy on destroyers with communications, gunnery and executive officer assignments.

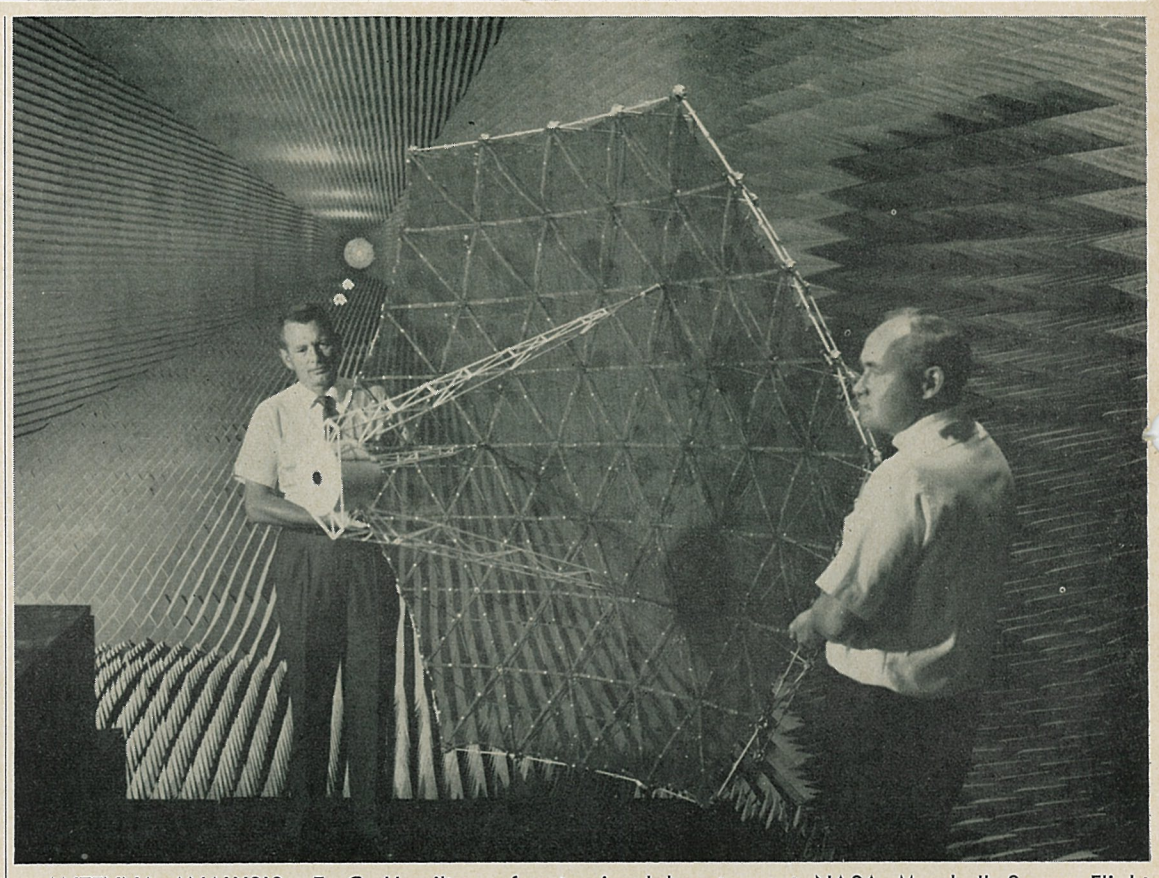
A native of Michigan, Colonel Merz was graduated from the U.S. Naval Academy in 1942 and received his M.S. in engineering administration from the USAF Institute of Technology in 1954 and his M.S. in industrial economics from Purdue in 1964. He is a registered engineer.

Colonel Merz and his wife, Barbara, have three daughters and are residing in the Pacific Beach area of San Diego.

$5,292 in Donations Okayed by Con-Trib

Grants totaling $5,292.70 for three community organizations were approved by the Convair Employes' Con-Trib-Club committee Aug. 8.

Included were $3,542.70 for Sheltered Workshops of San Diego, Inc., for purchase of various equipment items; $1,000 for the San Diego Mental Health Association for general operating funds; $750 for the San Diego County Association for Retarded Children for repair of its bus.



ANTENNA ANALYSIS—E. C. Hamilton of astronics laboratory at NASA Marshall Space Flight Center, left, and John A. Fager, Convair advanced systems project engineer, inspect working model of Convair-developed self-expanding space antenna in large anechoic chamber at Kearny Mesa. Reflective surface of antenna is covered with woven stretchable screen made of gold-plated metallic yarn.

Convair-Developed Antenna Section To Be Deployed in Simulated Space

(Continued from Page 1)

sion when released.

Fager said antennas of this conceptual design may be packaged in different configurations, offering variations in package diameter and height for different mission requirements. For example, a 100-foot antenna could be packaged in 7.5, 10 or 15-foot-diameter "envelopes," respectively, for launches by Agena, Centaur and Saturn.

Also being performed under the current contract are tests on four different types of spring joints, flight load and failure tests on different structural elements, analysis of radio-frequency affects for determining "feed" systems design for optimum performance, and a series of tests to evaluate effectiveness of two different types of metallic mesh material for use as a reflective surface.

Fager said the two types of commercially purchased mesh, one of gold plated chromel-R and the other of copper and tin, can be folded easily and will "stretch like a knit suit" to remain taut when the antenna deploys.

Samples of the metallic weave, one in a square tricot and the other in a lace knit pattern, will be tested for radio-frequency reflection before and after 30-day vacuum chamber tests during which temperatures will be cycled from –300 to 300 degrees F.

Other samples will be packaged under different load conditions, kept under vacuum for a month and checked for evidence of permanent creasing and "vacuum welding."

Ray Garriott will have primary responsibility for radio-frequency tests, Fred Fujimoto for design test integration, and Dave Forest, Ray Adsit and Bill Witzell for structural tests. Hayden Mitchell and McLane Downing will develop computer programming and handle dynamic analysis.

Fager said the Convair design can be used for construction of antennas of up to 300-foot width for use in space programs of the future.



MEMENTO—Sword, hand-crafted in Toledo, Spain, is presented to Jack L. Bowers, left, Convair general manager, by Charles E. Cordell, president of corporation planning San Diego's 200th anniversary celebration for 1969. Presentation was in recognition of General Dynamics pledging $10,000 to support city's 200th anniversary activities.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between August 16 and August 31.

Thirty-year: Dept. 045, R. B. Maddox; 143, R. E. Hibbs; 401 J. C. Brugger.

Twenty-five-year: Dept. 015, W. J. Noga; 027, E. E. Altman and G. V. Simmons; 045, W. Wantuch; 149, Gladys Garten; 191, Doris M. Howser; 400, C. L. Walden; 840, Mary G. Tamborino.

Twenty-year: Dept. 001, C. E. Goodale, 019, W. D. Ogilvie; 059, W. R. Killeaney; 250, W. C. Bayne and S. C. Davis; 759, L. Carvey Jr.

Fifteen-year: Dept. 015, M. E. Long; 031, M. F. Tidmore; 149, J. H. Galvin; 195, B. C. Ford; 250, B. L. Gammon, J. N. Miller, J. C. Moore and C. H. Turner; 518, W. A. Costello; 519, S. W. Lumnitzer; 524, Penelope L. Lockwood; 526, Eva W. Hodges; 531, G. Spanovich; 598, W. G. Hardy; 756, H. E. Naish; 761, F. D. Holbrook; 780, C. Robertson and Edna F. Yancey; 835, W. S. Hill; 843, Irene B. Thornton; 950, E. E. Lindgren; 964, C. F. Froehlick Jr., 966, P. Buchy Jr. and E. M. Ogden.

Ten-year: Dept. 016, Alice O. Jensen and J. W. Rhodes; 104, J. F. Isabel; 141, J. D. Scherkenback; 142, W. H. Randall; 195, H. Baumann; 199, D. J. Sweeney; 250, J. C. Roberts and J. T. Todd; 401, F. J. Lewon Jr.; 460, J. P. Staum; 518, D. L. Dagley and Mary M. Thomas; 551, S. D. Battle and H. B. Nicholas; 595, H. W. Rose; 596, C. B. Ludwig; 731, R. H. Besack and L. A. Lipec; 780, H. W. Graham, Joyce A. Johnson, Mildred E. Lay and R. N. Traxler; 820, G. E. Ryan; 833, D. DeDonato; 951, H. F. Lewis III; 958, Hazel C. Brunner; 979, M. K. Bailey, L. M. Bellemore, G. R. Buckner, D. R. Gowin, R. J. Roberts and L. N. Thompson; 985, W. J. Clark.

ELECTRONICS

Twenty-five-year: Dept. 611, Wilma R. Early.

Fifteen-year: Dept. 617, J. C. Van Caster.

Ten-year: Dept. 205, J. B. Larson.

Invention Disclosures

CONVAIR

BAILEY—R. E., Dept. 578. Aircraft Navigational Display.

CHRISTIAN—E. L., Dept. 491. Table Saw.

KEOUGH—N. R., Dept. 031. Spring Fastening Clip.

KUCALA—J. T., Dept. 045. Gra-Pel Hi-Lock Collar Remover to ¼".

TIPTON—N. R., Dept. 145. Fail-Safe Catalyst Bed Selector Valve.

Personals

CONVAIR

I wish to thank my many friends of Electronics-SD for the flowers and many kind expressions of sympathy received upon the death of my mother.

Marvin Delperdang
Elec.-SD, Dept. 465

* * *

Thank you for your kindness and sympathy following the death of Thomas C. McInerny (Dept. 31, retired 1961). The floral piece was beautiful and was sincerely appreciated.

Mrs. Eva McInerny

* * *

My sincere thanks to all my friends and co-workers for the surprise retirement get together and for the many beautiful cards and presents.

Richard "Dick" Miller
Department 143-1

Awards

CONVAIR

Employe Suggestion awards approved for the week ending August 9.

Dept. 780, F. A. Anderson, $18.00; 578, R. E. Bailey, $445.20; 143, F. A. Baugh, V. M. Frankfather, $158.75 each (joint award); 951, W. S. Becker, $235.10; 831, R. D. Behlman, $15.00; 578, H. G. Brittain, $846.90 (two awards); 130, G. C. Brown, $15.00; 250, H. A. Buehler, 149, J. Makis, $328.45 each (joint award); 579, M. D. Chlarson, $67.20; 196, N. N. Downs, $25.50; 250, A. R. Dyer, $18.20; 250, W. E. Gille $85.20; 733, E. V. Gloudeman, $15.00; 031, D. G. Gordon, $140.50; 027, E. L. Holtwick, $58.50; 401, J. W. Hudson, B. J. Jeffries, $38.40 each (joint award); 027, L. R. Jackson, $59.40; 016, A. S. Jones, $15.00; 820, N. D. Jones, $2,209.30; 143, R. D. Joyce, $38.10; 733, M. G. Keim, $79.00; 761, A. W. King, $25.00.

Dept. 015, M. E. Long, $32.10; 144, W. G. Lux, $107.10; 193, C. M. Malcangio, $15.00; 401, J. L. May Jr., $28.60; 059, H. R. Moline, $51.20; 763, G. Munoz, $15.00; 780, C. M. Ortiz, $18.00; 002, C. Q. Owens, $96.10 (two awards); 143, M. N. Rael, $15.00; 250, V. C. Somers, $15.00; 193, A. Talmadge, $15.00; 015, J. T. Tattoli, $7.50; 149, M. P. Taylor, $18.30; 195, C. B. Ward, $25.00; 015, D. L. Weelborg, $22.50 (two awards); 780, J. D. Willingham, $34.70; 170, T. Yano, $15.00; 840, D. B. Courtois, $30.80; 840, L. R. Fogerty, $47.80; 840, C. G. Jerome, $148.90; 840, R. A. Snow, $15.00.

Employe Suggestion awards approved for the week ending August 16.

Dept. 401, F. F. Campbell, B. J. Jeffries, $7.50 each (joint award); 578, A. C. Durson, $25.00; 250, M. C. Escareno, $15.00; 761, C. J. Eskew, $63.00; 015, E. W. Ford, $15.00; 002, E. Fountain, $17.50; 027, E. M. Gatlin, $30.20; 031, G. R. Hill, $91.10; 027, E. L. Holtwick, $15.00; 142, L. E. Johnson, $49.20; 059, B. W. Jones, $25.00; 059, R. L. Kellogg, $15.00; 027, J. L. Killeaney, $30.00 (two awards); 149, C. A. McKinney, $15.00; 144, E. McLeod, $90.00; 015, J. P. Owens, $15.00; 574, N. F. Peters, $54.90; 027, J. P. Ruiz, $110.00; 027, M. W. Seton, $107.70; 454, L. M. Shaw, $15.00; 250, N. Thompson, $15.00; 250, G. C. Tsaousis, $30.00 (two awards); 144, E. M. Walker, $35.90; 130, R. E. Williams, $15.00.

Retirements

CONVAIR

BIDWELL—Odessa W., Dept. 521-6. Seniority date Dec. 3, 1956, retired Aug. 9.

COBB—Vera C., Dept. 016-0. Seniority date Nov. 6, 1947, retired Aug. 16.

CROSNO—Daniel M., Dept. 130-1. Seniority date March 21, 1956, retired Aug. 16.

JONES—William B., Dept. 832-4. Seniority date March 2, 1956, retired Aug. 2.

LUTZ—Francis F., Dept. 130-1. Seniority date July 17, 1956, retired Aug. 9.

POELLER—Henry C., Dept. 979-1. Seniority date Dec. 10, 1958, retired July 16.

SANCHEZ—Jose J., Dept. 250-3. Seniority date Jan. 9, 1951, retired Aug. 9.

In-Plant Training

ORIENTATION

NEW EMPLOYEES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Tuesday, Sept. 3 and Monday, Sept. 9, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 491, Bldg. 14 auditorium, Tuesday, Sept. 10, 8 a.m. for first shift; today, Aug. 28, 4:30 p.m. for second shift.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF-STUDY—A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Deaths

CONVAIR

BAKER—William K., Dept. 144-3, died Aug. 7. Survived by wife Helen and sons William, Peter and John.

DAVIDSON—Donald D., Dept. 015. Died August 17. Survivors include wife Mary and sons Martin H. and John E.

McPHERSON—Earl W., Dept. 758-0, died Aug. 7. Survived by wife Clytie and children.

REDMAN—La Joyce C., Dept. 999. Died August 20. Survived by husband Leo P. and daughter Sheila.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N. Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Continued from Page 1)

LF plant. If facilities were available many of us at LF would use them at lunch hour or after work.

A—To date we have been unable to locate suitable space for such facilities at LF. However, CRA has a study under way to see what can be done.

HERE ARE YOUR REPRESENTATIVES

An important part of democratic government is the privilege of voters' making their opinions known by writing to representatives in Congress.

U.S. SENATORS

Sen. Thomas Kuchel — Senate Office Building, Washington, D.C. 20510.

Sen. George Murphy — Senate Office Building, Washington, D.C. 20510.

U.S. REPRESENTATIVES

35th District — Rep. James B. Utt, House Office Building, Washington, D.C. 20515.

36th District — Rep. Bob Wilson, 2235 Rayburn Building, Wahsington, D.C. 20515.

37th District — Rep. Lionel Van Deerlin, House Office Building, Washington, D.C. 20515.

Boteler Will Head VS(X) Continuation

(Continued from Page 1)

aerodynamics and aerospace laboratories. He also represented Convair with the Bureau of Aeronautics in development of V/STOL aircraft.

Prior to joining Convair he was with the Bureau of Aeronautics for four years at Patuxent River NAS in test evaluation. Previously he had been with Ryan Aeronautical Co.

Boteler received his BAE (magna cum laude) from Catholic University of America. He also took graduate work from University of California.

Key program personnel assisting Boteler and their areas of responsibility are: D. R. Stewart, contracts; S. V. Starr, systems engineering; E. H. Damarus, operations; J. F. Baebler, quality assurance; J. B. Morgan, finance; R. N. Babcock, subcontracts and materials; G. E. Putness, project plans and controls; R. C. Mackintosh, integrated logistic support.

Staff members are R. L. Bayless, technical; R. M. Sewall, Navy requirements.

Dynanet Private Phone Network Now Serving General Dynamics

Dynanet—the largest private telephone network ever designed for industry—went into operation at 8 a.m. Aug. 27 at 22 General Dynamics locations throughout the country.

Cutover to the new service—which permits callers to dial directly without the assistance of an operator — was preceded by extensive testing.

Special extension phones were installed at all participating locations. Bell System employes stationed at each location placed 10,000 test calls throughout the network during the past two weeks.

More than 15,000 GD employes familiarized themselves with the new system at orientation sessions conducted by Corporate, division and Bell System communications experts. Prior to cutover, 10,000 Dynanet directories were released, each with a special insert for instructions on how to place calls from specific locations.

Leroy Fitzgerald, Corporate manager of wire communications, urged all users to keep calls brief.

"Our 361 circuits can handle a total of 722 separate conversations simultaneously," he said, "but we do expect an overload during the first month as people adjust to the new dialing methods."

It is expected that some 250,000 calls a month will be placed by employes using the new network.

Dynanet is composed of a series of private trunk lines connecting three major switching centers: San Diego in the West, Groton, Conn., in the East and Fort Worth in the Southwest. The Fort Worth operation is also equipped to serve as a switching station for transcontinental Dynanet calls.

Each of 22 General Dynamics locations in this long distance private network can now receive directly calls from any of the other locations.

By dialing a simple code, a Dynanet user automatically routes his call through one of three basic transmission routes appropriate for his calling area.

The first of these directly connects him to a Dynanet terminal controlled by his own switching area.

Through the second, if he is a coastal user, he may dial the Fort Worth switching station interchange for all areas in the Southwest.

And if he wishes a coast to coast connection, he again dials Fort Worth, this time adding additional digits in the code to route his call to the opposite coast.

Dynanet will complement the present wide area telephone service (WATS) which will continue to be used for areas not covered by the new network.



"All in all it was probably one of the liveliest meetings the Rockhound Club ever held."

Corp. Conference Held On Internal Auditing

Representatives from several General Dynamics division/subsidiaries attended a three-day Corporate internal auditing department training conference-seminar Aug. 20-22 at Green Oaks Inn in Fort Worth.

Stromberg-Carlson and Electronics division in Rochester, Electric Boat, Quincy, Convair, Pomona and Stromberg Datagraphics were represented with Fort Worth division as host.

Seminar leaders included: E. J. Tucker, Corporate director of internal auditing, and W. F. Finneran, assistant director; R. G. Hoagland, Electric Boat; J. J. O'Neil, FW division; Joseph Siptak, Arthur Andersen & Co.

G. P. Nelson, FW division; I. B. Hale, FW division; D. L. Thomas, Corporate comptroller; R. W. Harwell, FW division; K. H. Dunn, FW division; P. L. Kelly and P. R. Williams, Convair.

H. M. Magrisi and V. H. Jensen, Electric Boat; Dick Broman, FW division; Jim Lane, FW division; M. E. Whitley, Rochester.

R. A. Johnson, FW division; Jerry Holzer, FW division; L. F. Yoder, FW division; E. M. Westcott, Quincy; G. L. Wood, FW division; and M. K. Trindel, Rochester.

Visitors made a plant tour and saw an F-111 movie during the seminar.

Divisions to Observe Labor Day Holiday

General Dynamics employes have a three day weekend in store for them when the Labor Day holiday is observed on Monday, Sept. 2. All divisions/subsidiaries will be closed except for necessary security and maintenance functions. Regular work shifts will resume on Tuesday.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

LEONARD E. MANN (1956) from Electric Boat division to Liquid Carbonic as senior engineer-development; **FRANK J. GAFFNEY** (1957) from Convair to project engineer, Pomona; **HAMILTON A. MEYERS** (1956) from Convair to Fort Worth in systems technology; **JOHN S. GACHO** (1964) from Electronics-SD to senior dynamics engineer, Convair; **WILLIAM G. LASHBROOK** (1964) from Corporate Headquarters to manager of marketing administration, Stromberg Datagraphics; **DAVID K. HANKINS** (1960) from Convair to Electronics, Rochester; **JOHN V. TRACY** from Electronics, Rochester to Stromberg Datagraphics as cost estimator.

DOD Data Bank Opened up to GD Divisions

The Defense Documentation Center in Alexandria, Va., has been authorized by the Director of Defense Research and Engineering to provide information from its research and technology "work unit" data bank for General Dynamics divisions/subsidiaries and other Department of Defense (DOD) contractor organizations.

The "work unit" data bank consists of summaries of current research being conducted by and for DOD, NASA and other government agencies. More than 17,500 summaries are now on file—with the number expected to exceed 70,000 by 1971.

Computer printouts, provided on a standard format, describe objectives of the research or technological work being accomplished, identifies the principal investigator by name and address, and includes other management data.

Information from the data bank is derived from DD Form 1498, "Research and Technology Resume," used in reporting DOD-wide research and exploratory development "technology effort."

Dr. R. B. Stegmaier Jr., DDC administrator, said the data service, initially available only to military organizations, "has a tremendous potential for the elimination of unintended duplication of research and development tasks, with resultant savings in time and money."

Requests for "work unit" summaries from the data bank may be submitted through division librarians. Additional details are available in Defense Documentation Center Digest No. 32, published June 28.

Conference Seeks Technical Papers

The 1969 Electronic Components Conference co-sponsored by the Electronic Industries Association and the Institute of Electrical and Electronics Engineers has issued a call for technical papers.

Summaries of 500 words will be accepted in the fields of electronic materials, components and their processing technologies and are due Nov. 1.

Submit four copies of summaries to James A. O'Connell, Technical Program Chairman, Electronic Components Conference, ITT Headquarters, 320 Park Avenue, New York, N. Y. 10022.



UP AND AWAY — Marine at Twentynine Palms, Calif., fires Redeye missile at high-flying drone. Redeye, world's smallest guided missile system, is produced at Pomona division for both Army and Marine Corps.

Stand-in

Remotely Controlled Mobile Unit Is Fireman's 'In-Fighter'

A small, remotely controlled fire fighting unit may be used in the future to do the fireman's "in-fighting."

The 3½-ft. wide and 4½-ft. long "Fire Cat" prototype unit is being developed at Fort Worth division.

Using a hand operated control panel, an operator can push a button to send the track mounted fire fighter into an inferno.

Fire Cat's turret nozzle, capable of spewing fire fighting agents at from 300 to 750 gallons a minute, can also be operated remotely by a fireman who remains a "safe" distance from the center of the blaze.

The unit can handle up to four regular lines, enabling the operator to use a variety of fire fighting agents if needed.

"We think of the Fire Cat as an equalizer," said Phil Cummins, division emergency planning and disaster control chief. "It can move into places that are unsafe for a fireman.

"This is an important factor, since fires caused by today's increasingly exotic fuels and petrochemicals are harder to get close to and more dangerous for firemen."

Cummins said Fire Cat would be ideal for fighting airplane or oil well fires, where the heat becomes intense.

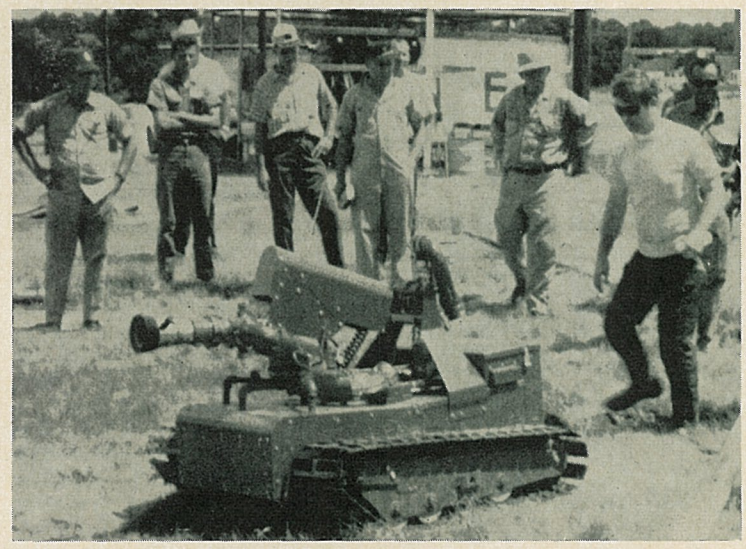
Fire Cat operates off six 12-volt standard car batteries, two 2-horsepower electric motors, and 2 fractional horsepower motors for the control circuit. It has enough power to climb a steep incline.

"An operator can guide Fire Cat from as far as two miles away with a control box," Cummins said, "although on a practical basis, the operation would normally be carried out from a few hundred yards away."

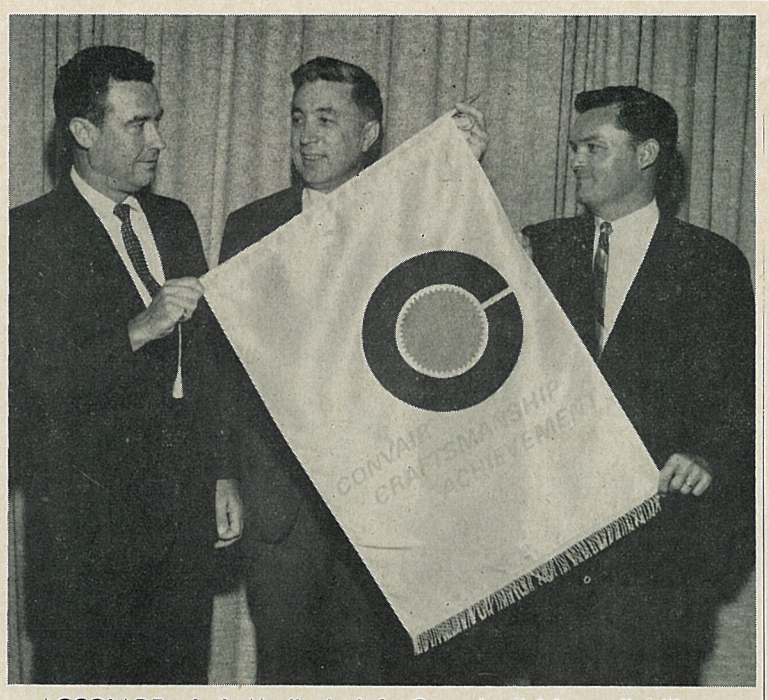
The radio controls can also be used to operate the unit's floodlights and public-address system.

"We're planning many other uses of Fire Cat — both civilian and military," Cummins said.

Fire Cat is a component in the Air Crash Emergency (ACE) concept developed by Cummins. ACE is a self-contained mobile "train" of modern fire fighting paraphernalia geared for today's "hotter" fires.



"IN-FIGHTER"—"Fire Cat," a radio-controlled fire-fighting unit, has been developed at Fort Worth division. Designer Phil Cummins (not shown) put machine through paces before visiting firemen at Texas A&M.



ACCOLADE—L. I. Medlock, left, Convair division reliability control director, presents second-quarter Craftsmanship achievement banner to W. T. Hollar, center, for Dept. 141-2 as Fred Lee Jr., KM plant reliability control manager, assists.

Process Control-Quality Eng. Earns Craftsmanship Banner

Efforts that aided in substantial reduction of soldering, wiring and component installation defects in electronics manufacturing has resulted in process control-quality engineering (Dept. 141-2) being awarded the Convair division reliability control department's quarterly Craftsmanship achievement banner.

L. I. Medlock, director of reliability control, presented the banner to William T. Hollar, supervisor, for Dept. 141-2 at a staff meeting for departmental supervisors last month.

Hollar said goals were established and efforts concentrated on reducing soldering and wiring defects because a study of 1967 records indicated more than 50 per cent of all discrepancies reported by inspectors from electronics manufacturing Dept. 780 functions were in those areas.

Last year an average of three soldering defects and 2.1 wiring defects were reported for each 1,000 manhours worked.

As a result of work toward the goals established, soldering defects were reduced to 1.7 and wiring defects to 1.8 per 1,000 manhours for the first six months this year. The number of wiring discrepancies dropped from 4.12 per 1,000 manhours in February to .9 in June.

Efforts to reduce component installation discrepancies also resulted in the number per 1,000 manhours being reduced from an average of 2.3 last year to 1 for the first six months this year and less than .3 in June.

Dept. 141-2 quality control engineers worked with electronics manufacturing supervisors and inspection personnel in identifying and acquainting personnel with problem areas and reporting improvement trends.

Primarily responsible for the program goals for Dept. 141-2 and areas of responsibility were Gary Stachwick, soldering; Tom Reese, wiring, and Dennis Lieurance, component installation.

Tours of Hawaii Will Be Explained

Tours of the Hawaiian Islands ranging from eight to 16 days will be explained at a meeting of GD employes, Sept. 4, 7:30 p.m. in CRA Clubhouse.

Tours range in price from $235 for an eight day, four island tour to $495 for the 16-day, five island visit.

Price includes DC-8 "partyjet" from Los Angeles, inter-island transportation, hotel accommodations, sightseeing and professional Hawaiian tour escorts.

New Officers Take Over Reins at Awards Dinner Held by Vandenberg Mgt. Assn.

New officers of the Convair Vandenberg Management Association were installed at an awards night dinner meeting attended by members and their wives July 17 in the Santa Maria Club. Heading the new slate is Denny Barber.

Roger Lynch, Convair base manager, gave a slide presentation on General Dynamics divisions and products. Dean Moore, NMA district manager, was installing officer.

Two $500 scholarship awards were presented, one to Marilyn Hoines, daughter of Arnie Hoines of Dept. 985-1, and John Huitt, son of Paul Huitt of Dept. 985-1. Both of the young people plan to attend San Diego State.

The scholarship awards were presented by Art Sanger of Dept. 985-6.

George Cooper of Dept. 985-4 received the club's "leadership award" for his efforts as chairman of the scholarship committee.



TAKE OFFICE—Convair Vandenberg Management Association installed officers at an awards night dinner. From left, T. G. Neff, recording secretary, H. R. Holman, executive vice president, Denny Barber, president, Sam Botta, administrative vice president, J. F. Wells, financial secretary, Stan Carpenter, treasurer.

'Reliability' Course Offered This Fall

The San Diego section of the American Society for Quality Control, in conjunction with the engineering department at San Diego State College, has arranged for the first "reliability" course for the San Diego State College Extension program to be offered this fall.

John Silverstein, a senior reliability engineer in Convair's Dept. 958-6, will be instructor for the course, which will be held from 6:30 to 9:30 p.m. Tuesdays beginning Sept. 10 in Room 168 at Woodrow Wilson Junior High.

The course will provide three semester hours college credit, if desired, and students may enroll and pay the $49.50 course fee at the first class meeting. Phone Silverstein, ext. 1453 KM, for additional information.

Vandenberg Team Wins Keg League

"The Swingers," one of six CRA teams in the Missile Contractors League at Vandenberg AFB, took first place in 1967-68 season play.

The team was composed of Peter Garcia of Dept. 985-3, John Simko of Dept. 985-1, Dan Costa of Dept. 985-4, and Helen Clark of Rocketdyne. Each has been presented a trophy.

Another Convair team, "Two + Two," won high team series with a 2,615 total but placed third in total team standings—½ game behind a Boeing foursome.

In addition to the six Convair teams, six teams from Boeing and two from Bechtel bowled.

Small Boat Course Scheduled Sept. 10

A seven-week course in small boat piloting and seamanship will be conducted for General Dynamics families from 6 to 9 p.m. Tuesdays and Thursdays beginning Sept. 10 in CRA Clubhouse at KM.

R. J. Cook of Convair's Dept. 130-1 will instruct. Sponsor is the Mission Bay Power Squadron. There will be no charge except for the $7.80 textbook.

The course includes a two-hour field trip aboard a charter excursion boat to familiarize the class with buoys, lights, markers, etc.

Employes, their wives and children over 15 years of age may enroll.

Ballroom Dance Set For Intermediates

A new class in ballroom dancing for intermediates is scheduled to begin Monday, Sept. 9 in the CRA Clubhouse auditorium. Bob McGlade, professional instructor, will conduct the class.

Intermediates are those who have completed the beginners course or are proficient in the basic steps of fox-trot, waltz, swing, tango, rhumba, cha-cha and samba.

Cost of the 12-week course is $18 per couple. All classes begin at 7:30 p.m. and registration may be made at the first session.

For information, call CRA Commissioner Royce Riggan at LF ext. 431.

Resurfacing Project At LF Completed

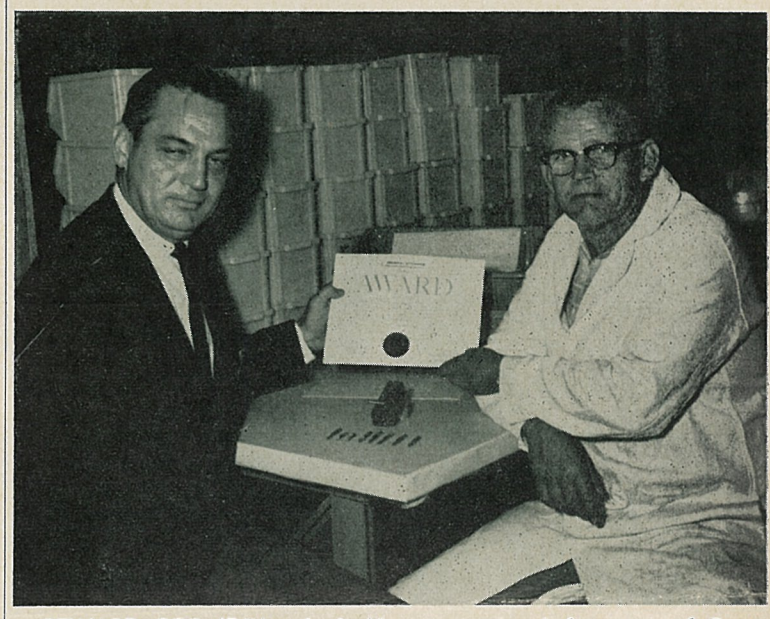
Paved areas at LF plant are in good condition for at least a year as a result of a "one time" patching and resurfacing project recently completed.

Convair is approximately $10,000 ahead as a result of doing the job at one time, rather than piecemeal, W. J. Stanley, Convair manager of plant engineering, indicated.

"Doing it in little jobs would have cost $20,000 while the 'one time' approach cost half that," Wes Muse, plant engineering design section, said.



SECOND TIME WINNER—N. R. (Nick) Keough, Convair manager of experimental, accepts Convair Craftsmanship Achievement banner from J. M. Adamson, LF manager of operations, for second quarter, and for second time this year. Experimental department won banner by achieving a total of 95 per cent of their goals either on or ahead of target. This is up from a score of 67 per cent, which brought them banner in first quarter.



REWARD FOR IDEA—Jack Murray, general foreman of Dept. 422, Electronics-SD (left), presents award certificate to R. H. Pierce, sheet metal mechanic, for Pierce's suggestion for an engraving fixture, pictured in center of photo, which reduces tool sharpening time. Pierce has been GD employe since 1942.

'Simple' Engraving Tool Idea Saves Time and Earns $112

A suggestion for a fixture which makes it easier and faster to sharpen an engraving tool brought $112 award to R. H. Pierce, sheet metal mechanic in Dept. 422, Electronics-SD.

The fixture consists of a simple block and clamp device which holds the engraving tool at the proper angle for sharpening, reducing the sharpening time from around 25 minutes per tool to approximately one and one-half minutes.

Formerly, engraving tools were sharpened by dressing them down free-hand, then checking for accuracy by using a comparator, a machine which magnifies an object many times.

"The idea is very simple, but it saves an estimated $1,120 over a year's time," said Jack Murray, general foreman of Dept. 422. "It could be adapted in any place in the organization that uses engraving tools, and is an excellent example of the contribution a small idea can make to a large organization such as General Dynamics."

Square Dance Course Offered Beginners

A 16-week beginner square dance course is being offered by the CRA Square Dance Club. The course, open to all interested GD folk, will begin Tuesday, Sept. 17, 8 p.m. in the CRA Clubhouse auditorium.

Clark Elliott, regular club caller will instruct and cost will be 50-cents per person for each session.

Registration will be open during the first three classes.

Lunch Hour Bible Study Group Meets

A newly formed lunch hour Bible study group is meeting from 11:30 a.m. to noon Tuesdays and Thursdays in the Bldg. 5 mezzanine conference room, Col. H 1-11, at the Kearny Mesa plant.

Information on meeting times and locations for other groups can be obtained by calling Helen Cook, ext. 3146 KM, or Betty Hicks, ext. 3753 KM.

Special Bus Service Demand Surveyed

Early returns in a tab card survey of Lindbergh Field employes regarding a desire for special bus service indicated two-to-one approval.

The survey was conducted by industrial relations for the San Diego Transit Authority. Early return of cards to Lou Braun, LF employe services, mail zone 131-40, was requested.

Quality Assurance In Germany Is Topic

A meeting of the San Diego section of ASQC is slated for 6:30 p.m. Sept. 9 in the Bronze Room, La Mesa.

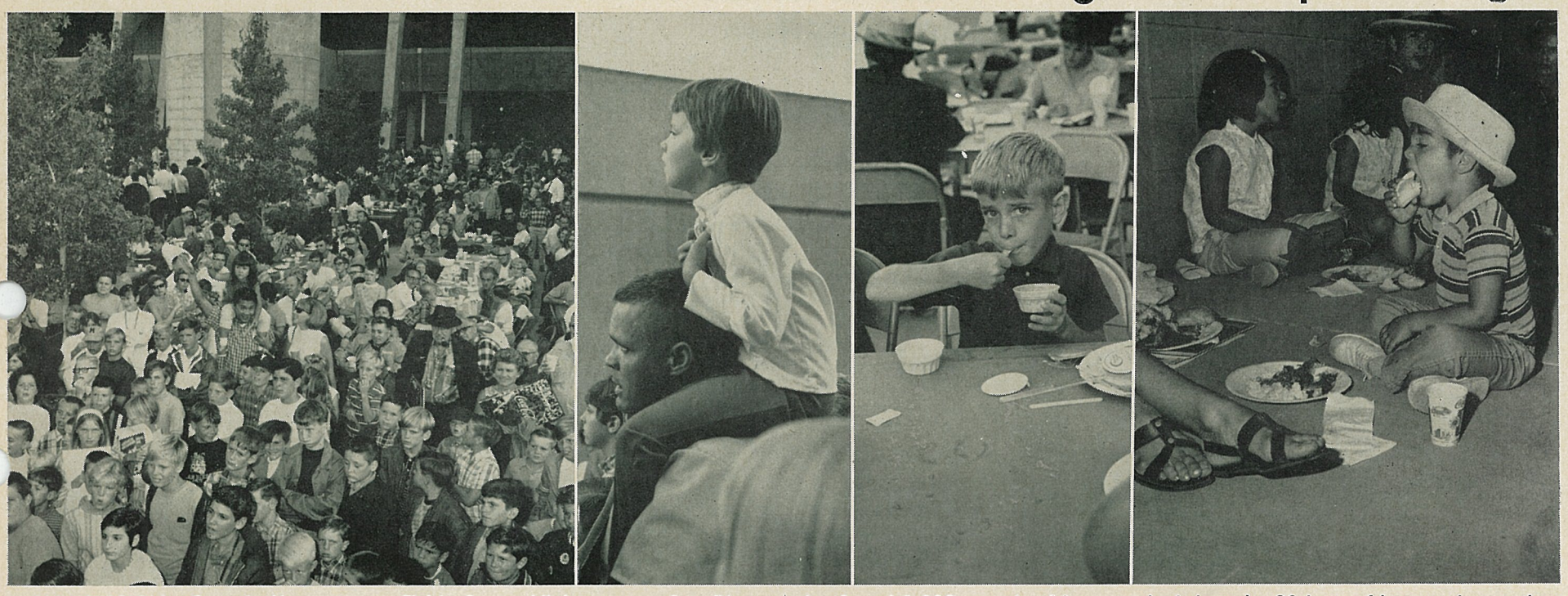
James R. Rossie of the Cannon Electric division plant of IT and T in Anaheim, will discuss "Quality Assurance in Germany."

Convair division is program sponsor. Call C. L. Marks, ext. 2370 KM, for tickets.

DOYLE SPEAKER FOR ELECTRONICS-SD

C. W. Doyle, Fort Worth division value control administrator, led a value control presentation recently for Electronics-SD management and procurement personnel.

Picnic and Ball Game Combined at Annual Mgt. Club Sports Night



JAM SESSION—Convair Management Club's Sports Night at new San Diego Stadium drew crowd of more than 2,800 hungry sports fans who consumed 900 pounds of potato salad, 800 pounds of cole slaw, 1,500 pounds of barbecued beef, and 1,000 pounds of ham; washed down by 30 kegs of beer and more than 1,500 soft drinks. Crowd later enjoyed baseball game between Padres and Tulsa Oilers, won by Tulsa 1-0.

Here's Bicycle Club Schedule

CRA Bicycle Club has announced the following ride schedule for the remainder of the year:

Sept. 14—50-mile Brown Field ride, leaving Bank of America in Spring Valley at 7:30 a.m.; Agostino Arcidiacono, leader.

Sept. 28—25-mile Frontiertown ride, leaving Casa de Oro at 9 a.m.; Bob Barkdoll, leader.

Oct. 12—50-mile Lakeside ride, leaving Kearny Mesa plant at 7:30 a.m.; Cy Campbell, leader.

Oct. 26—25-mile Lake Jennings ride, leaving Parkway Bowl, El Cajon, at 9 a.m.; John Gacho, leader.

Nov. 9—50-mile Lake Hodges ride, leaving Miramar Road and U.S. Highway 395 at 7:30 a.m.; Dave Lukens, leader.

Nov. 23—25-mile Serra Mission ride, leaving Mission Valley East shopping center at 9 a.m.; Myke Dickey, leader.

Dec. 14—50-mile Alpine ride, leaving Parkway Bowl at 7:30 a.m.; Arcidiacono, leader.

Dec. 28—25-mile Otay Lakes ride, leaving Southwestern College at 9 a.m.; Dick Gilbert, leader.

Summer Net Tourney Set For September

CRA Tennis Club and Convair Management Club will sponsor a summer tennis tournament for Convair employes, family members and guests next month at Morley Field and Mesa College courts.

Advanced, intermediate and novice men's singles events will be played Sept. 7 and 8; advanced and novice men's doubles and women's intermediate singles Sept. 14 and 15; men's intermediate doubles and women's novice singles on Sept. 21 and 22, and mixed doubles at a date to be announced later.

Bob Herold, Tennis Club commissioner, said deadline for entry is Sept. 4. Reservations for advanced events may be made with Cecil Norwood, ext. 3439 KM; intermediate events with Mike Riggs, ext. 2367 KM; novice events with Bob Heintz, ext. 1542 KM, and women's events with Sharron Williams, 277-6206, or Thelma Zivolich, 223-1575.

Eileen Wilson Wins "Odd Hole" Sweeps

A first place trophy and "odd hole" sweepstakes award went to Eileen Wilson at the Aug. 10 GD Women's Golf tournament played over San Carlos course.

Merchandise certificate winners were Jeannine Letzring and Dorothy Johnston.

The women golfers will play River Valley Golf course in their next tournament, Sept. 14.

Only "Rolled" Once

Electronics Engineer Collects 85 Race Trophies in Four Years

Bill Kirk, electronics group lead engineer in Convair's Dept. 141-2 at Kearny Mesa, brought his collection of trophies for sports car events to 85 with a second place win in last month's Golden State Grand Prix in Santa Maria.

Kirk's win in the State Grand Prix was in the A-production class in a '66 Corvette Stingray with a 427-cubic-inch-displacement engine (13 to 1 compression ratio), high-lift cam and disc brakes that he has owned since March.

He is now adding a fiberglass "spoiler" to the vehicle's rear end to reduce "spin outs" and doing some minor modification to the body to provide an overlap over the vehicle's wide-track tires. He runs 13-inch tires on the rear and 10½-inchers up front.

Three hundred of the state's top sports car drivers, including 35 from San Diego, entered the Grand Prix events.

Kirk drives frequently at Riverside Raceway and at Willow Springs near Palmdale. The Stingray has a top speed of 165 but Kirk usually averages between 90 and 100 in event competition on a mile track.

He has won the San Diego slalom championships, based on best 10 events for the year, for the past four years.

Although Kirk has accumulated his 85 sports car event trophies in the last four years, he seems to be jinxed by the number 13. He has won 13 events four times in a row—only to lose on the 14th outing.

He raced a 56 Ford convertible with a 600-hp, 427 cu. in. displacement engine in "super stock" events last year and previously ran a '63 Stingray with a 327 cu. in. engine, which he found "too slow for the longer events."

He has rolled a car only once—two years ago in a "super stock" event at Whitman Stadium in the San Fernando Valley—and suffered no injury.

Kirk's wife, Joan, does her share of sports car driving too—running slaloms in an unmodified show - room - stock - class Austin Healey Sprite.

The younger members of the family, Bobby, 7, and Davey, 4, run their own slaloms on bicycles around pylons set up at home!

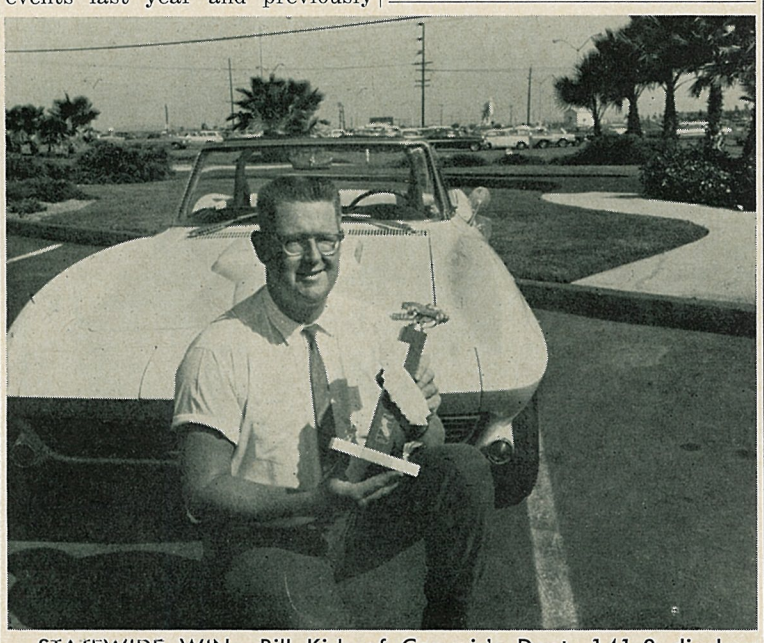
O'Brien Winner On First Try

It didn't take Don O'Brien long to show the regular shooters of the CRA Pistol Club that he meant business his first time in competition with them. O'Brien outshot the field in the Expert class with a 282 and defeated Bill Dittmann and Dick Sutton by ten shots. Dittmann's four Xs gave him second place over Sutton who had two Xs.

Master class competition produced another runaway winner when Jim Halfacre fired a 293 to outdistance, by a wide margin, Warren Walker who had a 274.

Ernie Kampmann won the Short National Match by shooting 248, seven shots better than Halfacre's 241.

Next club shoot will be at 9:15 a.m., Sept. 8 at the San Diego Police Pistol Range, Federal Blvd. and Home Ave.



STATEWIDE WIN—Bill Kirk of Convair's Dept. 141-2 displays trophy won in last month's Golden State Grand Prix in Santa Monica. He drives hopped-up Corvette Stingray in background and has collected 85 trophies in sports car competition in last four years.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is Sept. 3. Call ext. 1071 LF or 3322 KM. All meetings are held in CRA Clubhouse unless otherwise noted.)

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ADVENTURERS—Labor Day weekend trip to the high Sierra.

BADMINTON—Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BALLROOM DANCING—Intermediate class of instruction beginning Sept. 9, 7:30 p.m.

CAMERA CLUB—Model shoot, Sept. 1, 8 p.m., Photo Arts Bldg., Balboa Park.

CERAMICS—Meet each Tuesday and Thursday, 7-10 p.m.

CHESS—Play each Wednesday, 7 p.m.

CHORUS—Rehearsals 7:30 p.m., Mondays.

DELTA DIVERS—Abalone race, Sept. 15.

GARDEN CLUB—Meeting Sept. 4, 7:30 p.m., Floral Association Bldg., Balboa Park.

HI/FI MUSIC—Meeting Sept. 10, 7:30 p.m.

ICE SKATING—GD family skate night Thursday, 6:15-7:45 p.m., Mission Valley Ice Arena.

MINIATURE RAILROAD—Operating sessions Saturday, Sunday and holidays, CRA Missile Park.

MODEL HO RAILROAD—Work sessions 9 a.m. Saturday; 7:15 p.m. Tuesday, CRA Missile Park.

PISTOL CLUB—Shoot Sept. 8, 9:15 a.m., S.D. Police Pistol Range.

RADIO CLUB—Meeting Sept. 5, 7:30 p.m.

RIDING CLUB—Campout to Cuyamaca State Park, Sept. 6, 7 and 8. Regular meeting Sept. 11, 7:30 p.m.

ROCKHOUNDS—Meeting Sept. 11, 7:30 p.m.

RIFLE CLUB—Senior shoots, second and fourth Wednesday, 7 p.m. Juniors shoot first and third Saturdays, 9 a.m., Gillespie Field Range.

SAILING CLUB—Meeting tonight (Aug. 28) 7:30 p.m.

SCULPTURE—Workshop sessions each Monday, 7-10 p.m.

SQUARE DANCE CLUB—Dance 8-10 p.m. each Thursday. Regular 16-week course starting Sept. 17.

SPORTS CAR CLUB—Meeting Sept. 11, 7:30 p.m., Convair executive dining room, Lindbergh Field.

STAMP CLUB—Meet second and fourth Thursday, 7:30 p.m.

TENNIS—Summer tennis tournament, Sept. 7, 8, 14, 15, 21 and 22.

TOASTMASTERS—Convair Toastmasters No. 374 meet each Wednesday 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m.

WOMEN'S GOLF—Tournament, Sept. 14, River Valley course.

Allen Jones Spears 32-lb. Yellowtail

Allen Jones speared a 32-pound yellowtail to take top honors in the Delta Divers' spearfishing meet Aug. 18 at Casa de Manana. It was the largest single fish brought in this year by a club member.

Hal Reeser took second place with fish he speared totaling 10½ pounds and Ken Swan was third with a 10¼ pound total.

Jim McGinnis' team is now leading the Divers' annual "derby" with 125 points. Jorge Zorilla's team is second with 96 points and Bob Nicholas' team third with 72.

High individuals in point standings are McGinnis, 35; Reeser, 31, and Zorilla and Nicholas, tied for third with 24. Loren Batchman holds the lead for bringing in the largest abalone to date—with a 9-1/16-inch pink "ab."

CRA to Sponsor Mexico Tour

CRA will sponsor a 15-day air and bus tour of Mexico, beginning Nov. 16.

Cost will be $345. An information meeting, including travel films and refreshments, will be held at 7:30 p.m. Sept. 5 in CRA Clubhouse auditorium.

First-class hotel accommodations, air transportation to Guadalajara, Mexico City and Acapulco; bus or limousine service to tour points; tickets to the Folklorico Ballet in Mexico City; services of a bi-lingual tour guide; and some meals will be covered in the "package."

MODEL SHOOT SET FOR CAMERA BUFFS

A model shoot, held jointly with the Photo Arts Camera Club, is in store for CRA club members Sept. 1. Two models will pose for lensmen at the 8 p.m. shoot in the Photo Arts Bldg., Balboa Park.

Quarterly contest winners were Bruce Williams and Andre Ney. Jo Winsor was a double winner in the color slide beginners division. Advance color slide awards went to Chuck Harter, Bob Pettyjohn, Ken Rinker and Clark Winsor.

In addition to meeting on the third Sunday each month, members have added the first Sunday to their schedule.

Cuyamaca Trails Beckon Horsemen

CRA horsemen have scheduled the weekend of Sept. 6, 7 and 8 for a trip to Rancho Cuyamaca State Park. Numerous riding trails begin at the Group Horsemen's Camp.

Twenty corrals are available. Clyde Donahoo, club president, said that a Saturday night community dinner furnished by the club is planned plus entertainment. Call Donahoo at ext. 2765 KM or (home) 277-0371 for reservations.

Bids Being Taken For 13 Used Trucks

Convair material sales is accepting bids from employes for sale of 13 used trucks.

Included are two pick-ups, three panel trucks, one station wagon, four two-ton flat beds, one two-ton van, and two tractors. All can be inspected from 8 a.m. to 3 p.m. weekdays at the Kearny Mesa salvage yard.

Roy Eastberg, material sales representative, said bid forms can be obtained from the Lindbergh Field or Kearny Mesa salvage offices and must be submitted by 1:30 p.m. Sept. 10.

A deposit is not required when submitting bids.



PEDOMETER CHECK—Merry Harding, mail clerk, sets pedometer before she begins her four times daily deliveries.

Regular Exercise

There's No Doubt Walking Keeps One in Good Shape

Would you walk from Los Angeles to New York City in a year?

Merry Harding would answer, "Indeed, not!"

But she will walk the equivalent of that distance this year in the performance of her duties as mail clerk at Fort Worth division.

Calculations were made after Merry had worn a pedometer for two full days recently. The instrument revealed that she walks nine miles a day on her delivery route. The attractive clerk makes her rounds four times a day carrying approximately 300 pounds a day in her mail cart.

Of course, Merry can add a mile from her parking lot to the office and back each day. That brings her walking total to 10 miles per day. Fifty miles a week for 52 weeks a year will bring her total mileage to 2,600 miles for the year.

She added a few extra steps as she went down a different aisle last month to become Mrs. Mike Musgrove.

Christening of Milwaukee Set For Nov. 7 at Quincy Shipyard

Nov. 7 has been set as the date for the christening of U. S. Navy replenishment fleet oiler Milwaukee (AOR-2) second of six ships of the new class to be built by the Quincy division of General Dynamics.

The shipyard's second christening of 1968 will see the supply ship floated out of basin 8 in ceremonies scheduled for midday.

Representatives of Milwaukee, Wis. city government are expected to join Quincy division employes, Navy personnel, and their guests in celebrating the ship's baptism.

The 659-foot Milwaukee, which occupies nearly 75 per cent of Basin 8s length, is the first surface ship constructed in that building position since the 47,000-ton tanker S. S. Mt. Washington was built for Victory Carriers, Inc.

The Mt. Washington was floated out Sept. 20, 1963. However, the christening did not take place until Oct. 31 at Bethlehem's East Boston Yard.

Three of the six AORs are currently under construction. The program got under way with the keel laying of Wichita (AOR-1) on June 16, 1966 and Milwaukee on Nov. 29, 1966. Wichita's launching on March 16 of this year preceded by slightly more than a month the keel laying of Kansas City (AOR-3) on April 18. Dates for the start of construction of the as yet unnamed AORs 4-6 has not been announced.

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One Major Problem

Beer-Filled Building Basin Considered For Milwaukee

(EDITOR'S NOTE: The accuracy of this story is uncertain.)

Quincy division officials have denied a rumor that the U.S. Navy oiler Milwaukee will be floated out of a building basin filled with beer.

"We did give it serious thought," one admitted, "in order to add distinction and excitement to the float out."

The idea had its origin, he explained, when a suggestion was made to christen the ship with beer instead of champagne because of the Wisconsin city's association with the product.

"Then someone argued that we would be violating a nearly sacred tradition of the sea by baptizing the ship with beer. Even if we used the "Champagne of Bottled Beers" it wouldn't be the same," he said.

"Someone else suggested filling the basin with beer. We all liked this idea.

"The drama of watching a huge ship float out of her building position on a cloud of foam would be tremendous, a spectacular, and we could boast: 'Quincy, the shipyard that made Milwaukee famous.' "

Engineers were set to work figuring out how much beer it would take to float the ship.

They determined that the basin will have to be filled to a depth of 20 feet. That means 17 million gallons or 68 million quarts of beer.

"We thought it over and finally decided we couldn't do it. It would be costly but expense was not the deterring factor (we thought perhaps one of the Milwaukee breweries would donate the beer for the publicity value).

"We just couldn't figure out what to do with 68 million nonreturnable empties."

Star II Helps Recover Lost Drilling Hoses

Star II, a General Dynamics submersible based at San Diego, has located and assisted in the recovery of a ten-ton string of 16-inch diameter riser pipe with its special drilling hoses and fittings intact after the pipe was dropped from a drilling rig to the ocean floor 12 miles off the California coast.

The retrieval marked the first time that a manned submersible performed work services for the offshore petroleum industry in the Santa Barbara Channel.

Star II, which can dive to 1,200 feet, located and helped retrieve the pipe in less than four hours at a depth of 575 feet under adverse conditions during the pre-dawn hours on Aug. 10.

Star II, marketed by Divcon, Inc. of Houston, Texas, was leased through its subsidiary, International Divers, Inc. of Santa Barbara, Calif.

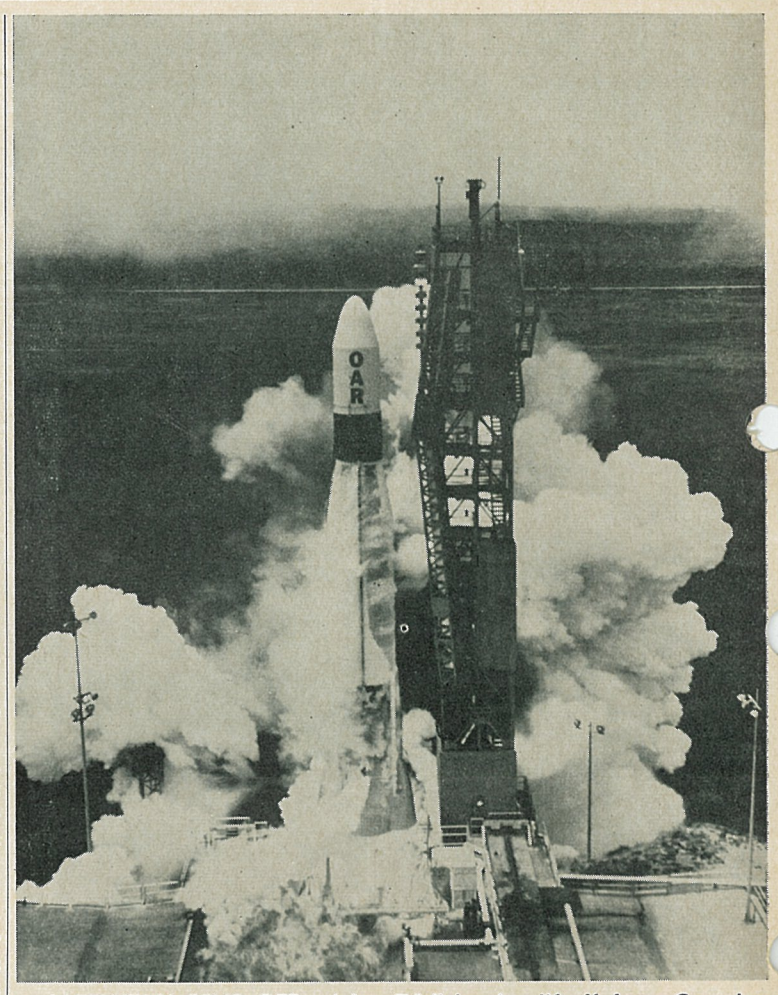
Louis Fead of the General Dynamics Marine Technology Center in San Diego piloted Star II. Peter Blommers, operations manager of the Western States and Alaska Area of Divcon, Inc. organized, coordinated and personally supervised from within Star II the retrieval operation for the clients, Pauley Petroleum and Western Offshore Drilling Co. He instructed and assisted the pilot in snaring the lost riser pipe with a cable sling which was hanging from the rig's drill stem.

The drilling rig then pulled the riser pipe to the surface where the rig's drilling mechanism regripped the pipe as it normally does during drilling operations. The pipe was then disassembled and stacked for re-use.

Five NASA Awards Go to Convair Men

Three Convair division space sciences Dept. 596-0 personnel recently received five $25 NASA awards and letters of commendation for having submitted information on innovations selected for publication as NASA Tech Briefs.

Edwin H. Wrench received one award and Dr. Alan V. Larson and Jerome P. Tinkham two each. The awards were the first to Convair employes this year.



SATELLITES' SEND-OFF—Atlas 75-F begins liftoff from Complex A-2 at Vandenberg AFB in last month's launch of Orbital Vehicle One (OV1) satellites 15 and 16. OV1 program is under direction of Air Force Office of Aerospace Research (OAR).

General Dynamics Issues Report For Six Months

Net income of General Dynamics Corporations and subsidiaries for the six months ended June 30, 1968, was $33,856,000, equivalent to $3.23 per share of common stock, Roger Lewis, president, announced last week.

This includes a nonrecurring gain during the second quarter of $8,927,000, equivalent to 85 cents per common share, from the sale of General Atomic division to Gulf Oil Corp.

Net income for the like period last year was $29,727,000, equivalent to $2.86 per common share. This included a nonrecurring gain during the second quarter of 1967 of $5,274,000, equivalent to 51 cents per common share, from the disposition of shares of Airlift International, Inc.

Net income for the second quarter of 1968 was $21,406,000. This is equivalent to $2.04 per common share including the nonrecurring gain or $1.19 per common share excluding that gain. Operating income for the second quarter was reduced by the federal income tax surcharge for the first six months — $1,846,000, equivalent to 18 cents per common share—all of which was charged in the second quarter.

Net income for the second quarter last year was $19,328,000, equivalent to $1.86 per common share including the nonrecurring gain or $1.35 per common share excluding that gain.

Sales for the first six months of 1968 totaled $1,339,056,000, compared to $1,009,324,000 for the first half of last year. Sales in the second quarter of 1968 were $686,791,000, compared to $537,268,000 for the like period last year.

Primary Installation Complete On S-C Switching Center in Asia

A major effort by Stromberg-Carlson employes reached a climax this week on the other side of the world as the primary installation phase of the first tandem switching center for Southeast Asia was completed at Bang Pla, an Army base 30 miles from Bangkok, Thailand.

Other large telephone tandem offices are currently being installed at Korat, Thailand, and at Can Tho and Da Nang in Viet Nam close to where American GIs have fought and turned back the Viet Cong.

Installation of still other Stromberg-Carlson tandem offices soon will start at such places in Viet Nam as Tan Son Nhut (which is reputedly the busiest airfield in the world), Nha Trang, Pleiku and Qui Nhon and Warin, Thailand.

The tandem switching centers permit government telephone users in one area to reach other government telephones outside their immediate calling area in much the same manner as the direct distance dialing system operates in the United States.

Joseph S. Kotzin, manager, contracts administration, just returned from Southeast Asia where he and members of the U. S. Army Signal Brigade and the Joint Communications Integration Working Group of Strategic Communications Headquarters reviewed progress to date and established criteria for program completion.

"The meeting," he said, pointed up the need for continuing quick reaction by Stromberg-Carlson's Rochester personnel to assure our ability to maintain continuity of our installation program. In this early phase, it is mandatory that we respond to the day-to-day requests of our field force.

"The military are pleased with our progress to date and our Stromberg-Carlson men in Southeast Asia are to be commended for the efforts they are making. Of course, the work that went on here in Rochester to manufacture switching systems on time and as quality products is a real credit to all Stromberg-Carlson employes."



While the major hardware manufacturing has been completed, Stromberg-Carlson operations department is now busily engaged in manufacturing spare parts and test equipment for logistic support of the tandem switching systems.

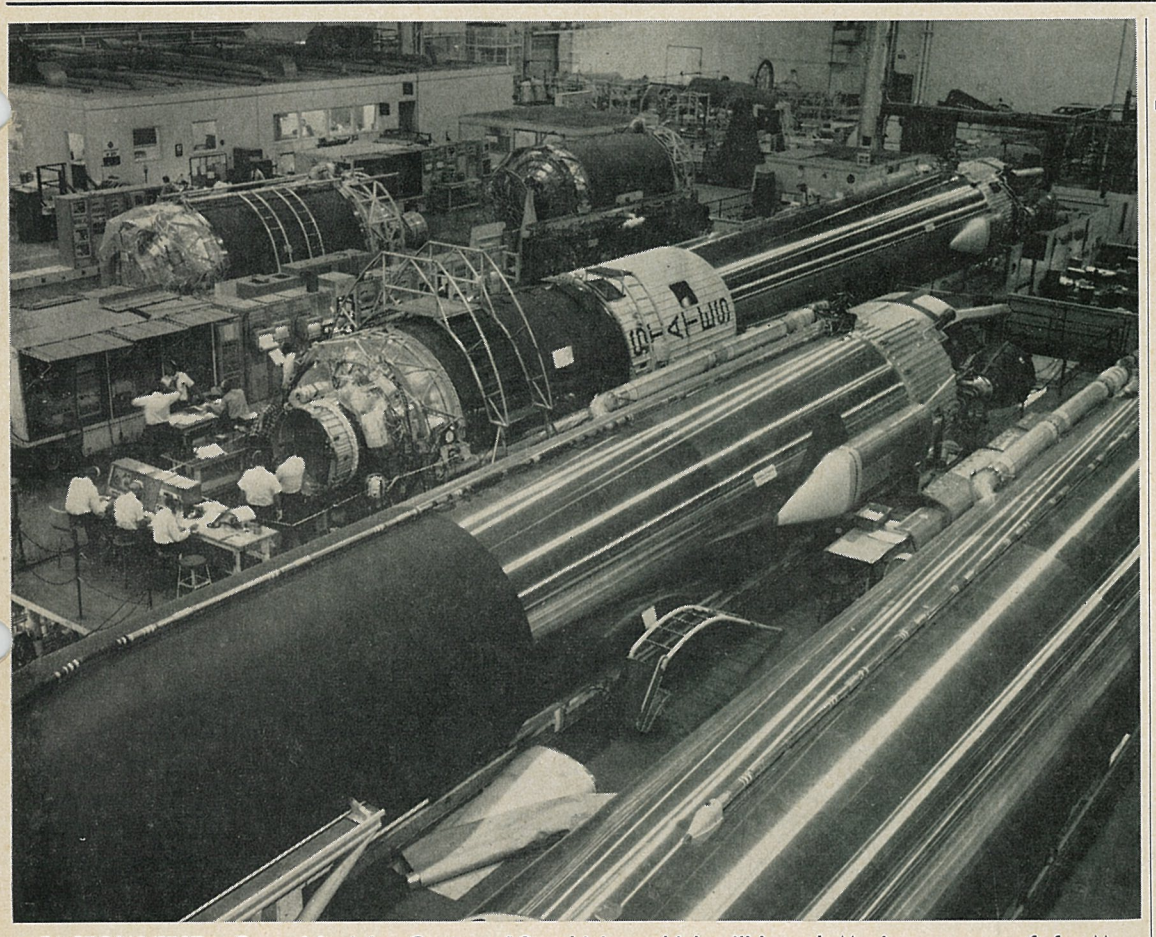
In addition, the technical writing group under W. O. Myers is producing a large volume of data for training programs which the military will use. Lee Ledbetter is responsible for coordinating the material for the 16-week course to be held on the training system which is currently being installed at Ft. Monmouth, N. J.

The Gustav Hirsch Organization (GHO) of Columbus, Ohio which performed a similar task for Stromberg-Carlson during the Titan missile communications program is responsible to Stromberg-Carlson for on-site installation and maintenance activity under Stromberg-Carlson administrative and engineering supervision.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 19 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, September 11, 1968



FACTORY TEST—Convair's Atlas-Centaur 19 vehicles, which will launch Mariner spacecraft for Mars fly-by next year, are shown mated and undergoing combined acceptance composite tests at Kearny Mesa plant. In foreground are Atlas SLV-3C No. 5403 and Atlas SLV-3A No. 5202 boosters. AC-19 vehicles are scheduled to arrive at Eastern Test Range later this month.

Division 'Doing Well' Toward 1968 Goals

Convair division will exceed its budgeted sales goals for 1968, Jack L. Bowers, general manager, told supervisors at quarterly management meetings Aug. 28 at which he outlined progress toward division objectives.

Bowers said the division is "doing very well" toward its 1968 business objectives.

"However, we can't relax on efforts to keep costs down, and we must continually pay attention to return on investment," he commented.

The general manager noted that at the end of July only 43 per cent of the division's "Conservation Program" goal for reducing operating costs in six areas by $1 million had been reached. Telephone and certain maintenance accounts were cited as categories "well behind the goals."

Bowers said Convair work under the new contract for production of DC-10 fuselage sections for McDonnell-Douglas could go into the 1980s, depending on sales and the division's performance.

Bowers said both the Kearny Mesa and Lindbergh Field plants have an opportunity to exceed their 1968 production sales forecast objectives by 10 per cent.

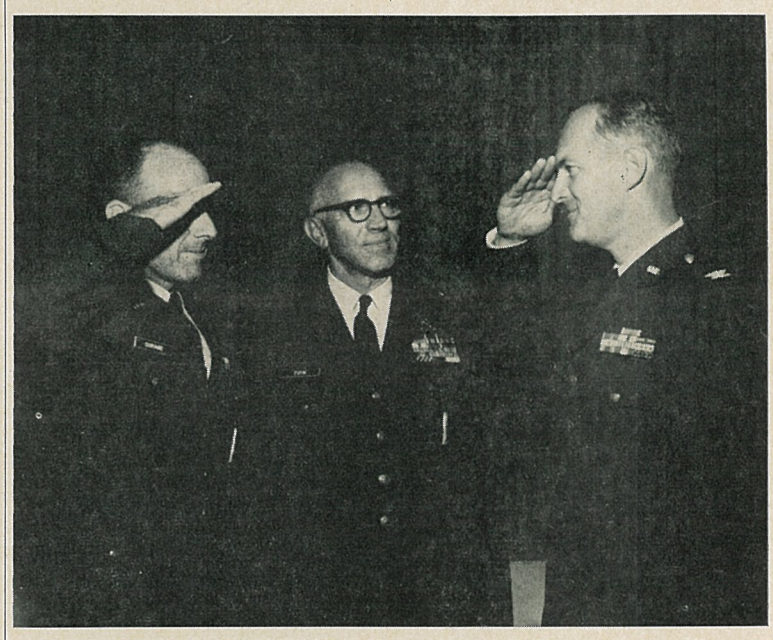
F-111 subcontract work was cited as being a "big help" in work toward this objective. Bowers said 3,500 Convair employes

(Continued on Page 2)

Informal Meetings Slated by Bowers

Jack L. Bowers, Convair division general manager, will meet informally with employes in their work areas during the next few days for discussion of division activities and to answer questions.

This will be the third in a series of annual meetings scheduled by the general manager as part of the division's "total communications" program.



COMMAND CHANGE—Brig. Gen. Arthur E. Exon, center, director of Defense Contract Administration Services Region-Los Angeles, was at Convair's Kearny Mesa plant Aug. 26 for ceremonies in which Col. Charles F. Merz, right, assumed command of DCAS plant representative office at Convair from Col. James R. Ourand, left. General Exon gave brief address at the ceremonies, attended by DCAS and military personnel.

Electronics-SD Boosts Bond Buying to 89 Pct.

Electronics-SD scored a "very substantial" increase in U.S. Savings Bond participation as the result of a recent Savings Bond drive, directed by R. H. Nicholson, manager of quality control.

The drive, coordinated by Fred Dietrich, quality control, resulted in 18 out of 40 departments participating 100 per cent and overall participation throughout San Diego operations rising to 89 per cent.

The drive was conducted over a four-week period, with bond boosters located in most of the departments who assisted in distribution and collection of bond pledge cards.

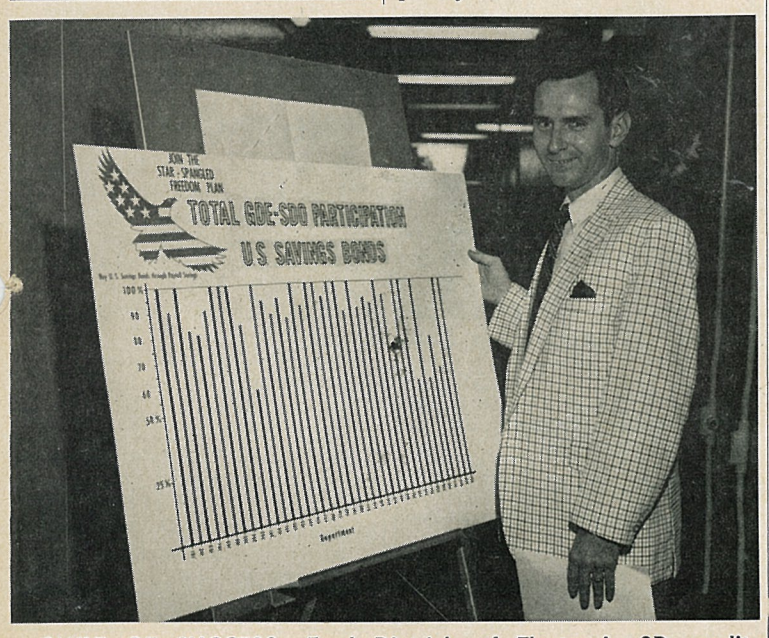
Departments achieving 100 per cent participation were: 101, manager's office; 103, financial; 203, contracts; 204, contract administration; 205, marketing; 421, manufacturing operations; 427, product test; 513, spares and logistics; 562, subcontracting; 582, estimating; 611, director of engineering; 613, range instrumentation laboratory; 617, program managers; 713, calibration and environmental lab; 714, parts application and documentation; 776, AIS-Quincy; 813, research and advanced technology; and 921, quality control.

Mgt. Club Sends Two To NMA Seminar

W. F. Chana, president, and J. E. Cook, first vice president, are representing Convair Management Club at the National Management Association's 114th management unity seminar in Dayton, Ohio, this week.

Seven representatives of the club also are scheduled to attend an executive officers' conference for the NMA Pacific region Sept. 19 through 21 in Monterey, Calif.

In addition to Chana and Cook, they are Chuck Simmons, recording secretary; Jim Wills, financial secretary; Gene Divine, treasurer; Roy Woodle, programs committee, Bob Ames, boosters committee.



SMILE OF SUCCESS—Fred Dietrich of Electronics-SD quality control, U. S. Savings Bond drive coordinator, has plenty to smile about. Bond drive boosted participation to 89 per cent.

Club Sponsors Fall Courses

Convair Management Club will present 16 fall session courses in 11 subject areas at the Kearny Mesa and Lindbergh Field plants beginning next week.

Club members who indicated in a survey last month that they wish to enroll are being advised of meeting times and locations as they are scheduled. Several of the courses are open to non-members. Questions may be directed to Helen Cook, club secretary, ext. 3146 KM.

"Tomorrow's Technology," a professional development course to be given at KM, will have each session chaired by a different moderator with Jim Wild as course supervisor. Subjects such as electric propulsion, composite materials, lasers, nuclear propulsion, information storage and retrieval, V/STOL aircraft, large erectable structures and re-entry vehicles will be covered.

"The National Managerial Test," a professional development course to be given at KM with Jim Boggus as course supervisor, will use the TV "drivers' test" format and will include film presentations on problems encountered at different management levels, and related class discussion.

"Motivation and Productivity," a film and discussion series, will be given at KM and will explore various facets of standard supervisory practices.

"Effective Communication" will be given at LF and will include an NMA film series and discussion.

"Speechcraft," a Toastmasters' course with Durwood English as supervisor, will be given at KM and will be designed to teach the student how to prepare and give speeches effectively and how to conduct meetings properly and to work in committees and conferences.

"Management Speaks," a series with each session to be chaired by a different Convair manager, will be given at LF and KM. Contracts, marketing, finance,

(Continued on Page 2)

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

★ ★ ★

Q—Why are the really "grass roots" questions and answers—those that are truly informative and affect our careers—seldom carried in *GD/NEWS?*

A—It is a matter of opinion as to what are "grass root" questions. If these are difficult, policy-explaining questions and answers, then *GD/NEWS* has published quite a few.

When "Q and A" was established in January of this year we pledged to answer truthfully all questions by personal letter and this "Q and A" has done. However, the selection of which to publish in *GD/NEWS* is a different matter, governed not only by general interest qualities but also by space and other limitations. If you have any specific questions that you think should be published, *GD/NEWS* will be glad to consider them.

★ ★ ★

Q—Why doesn't *GD/NEWS* carry a classified ad section?

A—*GD/NEWS*, San Diego Edition, for the most part is committed to a six page paper, for budgetary as well as mechanical reasons. Two pages of the six are normally committed to news of

(Continued on Page 2)

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Sept. 1 and Sept. 15.

Thirty-year: Dept. 031, J. L. Martin; 146, J. H. Powell; 514, J. E. Lampman.

Twenty-five-year: Dept. 193, A. C. Campbell; 400, C. W. Stafford Jr.; 514, C. J. Kull; 583, Earline B. Hearn; 596, M. L. Streiff; 756, G. R. Shirey; 758, N. J. Cardwell.

Twenty-year: Dept. 019, M. C. Harper; 130, Alvina R. Sult, Annetta C. Sutherlin; 170, Francis L. Stingley; 400, Anna L. Lindquist; 533, L. G. Lamp; 572, H. H. Rosenbaum; 780, Ila M. Tescher; 831, W. W. Sundstrom; 833, P. G. Bieberdorf.

Fifteen-year: Dept. 001, F. G. Herrera; 027, H. R. Peters, C. R. Woody; 059, G. E. Browne, J. R. Zak; 191, Vivian L. Woll; 460, H. L. Knapp, L. L. Morehous; 518, Jewell B. Williams; 521, Betty J. Upton; 543, H. E. Rogers, J. E. Sanders; 733, N. Henderson; 761, J. Engleman; 780, Verna F. Ascuitto; 835, L. Canales, N. A. Kirscht; 985, Anne M. James; 986, E. Koester; 988, D. E. Risty.

Ten-year: Dept. 101, A. Avila; 130, Wanda L. May, H. W. Rae; 143, R. R. Reekers; 144, E. J. Riner; 170, F. D. Schwend; 194, R. A. Parsell; 250, W. L. Baker, G. B. Tryon; 500, W. D. Wood; 532, D. Kozmary; 545, R. R. Fosse; 551, D. W. E. Grisel; 572, J. Frankowski; 587, W. H. Steurer; 596, L. L. Acton; 597, M. R. Schoonover; 731, E. Ostrow; 733, E. J. Ogden; 761, D. Wilson; 780, Ida D. Aguilar, W. Avery Jr., L. L. Strack; 802, A. F. Krieger; 810, K. T. Kennedy; 954, T. N. Berry, Mildred O. Pleva; 967, J. L. Hemme; 979, R. W. Chapman, Gloria W. Fisher, J. T. Hudson.

ELECTRONICS

Thirty-year: Dept. 617, K. A. Seely.

Fifteen-year: Dept. 422, A. Rodriguez; 423, Alice L. Shelton.

Ten-year: Dept. 204, D. L. Illeman.

Awards

CONVAIR

Employe Suggestion awards approved for the week ending August 23.

Dept. 015, L. R. Arnold, $15.00; 579, R. W. Baldi, $15.00; 027, A. I. Cox, $166.10 (three awards); 401, R. D. Culver, B. J. Jeffries, $19.70 each (joint award); 015, D. A. Dudbridge, $15.20; 964, J. A. Eaton, $216.70; 820, R. H. Feeley, $195.80; 149, M. B. Fickas, $14.40; 579, D. A. Fletcher, $285.50; 001, C. L. Flores, $15.00; 144, E. E. Franke, $25.90; 059, J. H. Gahagan, $15.00; 015, E. D. Gillis, $15.00; 761, B. K. Gingery, $52.50; 454, R. A. Golem, $134.70; 460, W. P. Hentz, A. J. Lowe, $7.50 each (joint award).

Dept. 401, J. A. Immonen, $45.30; 142, L. E. Johnson, $19.40; 059, D. C. Johnston, $38.50; 144, W. G. Lux, $15.00; 574, G. R. Mabie, L. N. Schofield, $15.00 each (joint award); 059, O. E. Morgan, $15.00; 019, R. C. Nordby, $47.40; 191, F. Novak, $15.00; 027, S. Persley, $14.40; 144, J. R. Peugh, $2,707.80; 027, A. F. Polus, $29.00; 001, W. K. Richeson, $36.50; 016, M. P. Robbins, $31.10; 027, A. W. Sandsten, $59.10; 027, D. C. Shoopman, $15.00; 401, L. O. Smith Sr., $242.50; 149, M. P. Taylor, $45.40; 732, J. Vecchio, $30.00; 059, D. Zatarian, $108.80.

Employe Suggestion awards approved for the week ending Aug. 30.

Dept. 015, A. W. Beckman, $15.00; 015, R. C. Blais, $15.00; 059, T. R. Devin, $243.80; 975 C. D. Fitzpatrick, $100.00; 015, L. R. Gibbs, $69.90; J. D. Giles, $48.50; 833, F. M. Hadaway, $223.10; 049, J. L. Hendricks, $67.20; 016, T. Hirasaki, $15.00; 142, A. G. Infeld, $15.00; 566, G. J. Kincaid, $306.90; 002, C. W. Levell and W. T. Roth, $7.50 each (joint award); 001, E. C. Mackey, $15.00; 553, H. J. Minch, $15.00; 027, J. P. Ruiz, $171.00; 979, F. M. Russell, $15.00; 820, F. Salas, $308.80; 400, V. R. Sampson and M. A. Stuhler, $15.00 each (joint award); 015, J. T. Tattoli, $7.50; 015 D. L. Weelborg, $22.50 (two awards).

Invention Disclosures

CONVAIR

KUELBS—D. R., Dept. 551-1. Inertial Guidance Azimuth Location.

LYMAN—J. W., Dept. 512-2. Addition and Selective Orientation of High Strength, High Modulus Materials to Discretely Improve the Structure Properties of Low Strength, Low Modulus Materials Locally.

MILLER—H. S., Dept. 533-2. Venturi Screen Adjustable Engine Air Inlet for Supersonic Jet Aircraft.

WEISINGER—M. D., Dept. 572-2. High Pressure Autoclave Bonding of Al-B Composite Tubing.

WILLIAMS—T. E., Dept. 507-0. Emergency Locating Device for Submersibles, Surface Craft and Aircraft.

Rider-Driver

CONVAIR

RIDE WANTED—From Blue Lake and Cowles Mtn. to Kearny Mesa plant, 7:30 a.m. to 4:00 p.m. shift. Call Millie Guarinello, ext. 3220 KM or (home) 469-8186.

RIDE WANTED—From Ramona to Plant 19, 7 to 3:30 p.m. shift. Phone Gordon Olcott, LF ext. 2009.

RIDE WANTED—From Kearny High School to Lindbergh Field plant, 8 to 4:45 p.m. shift. Willing to form car pool. Call Marilyn Potterton, LF ext. 1071 or (home) 278-0424.

Births

CONVAIR

HILD—Daughter, Beverly Joan, 7 lbs. 6 oz., born Aug. 11 to Mr. and Mrs. Robert F. Hild, Dept. 141-2.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N. Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Need a Rider? Need a Ride?

If you need a ride to work at Lindbergh Field, or if you are a driver and want riders in order to qualify for the LF Rider-Driver lot, send a note to GD/NEWS, mail zone LF 104-60, giving shift hours, name, home phone or plant extension, and place of residence. Your "ad" will be carried in GD/NEWS.

Papers Presented

CONVAIR

DE MUND—C. N., Dept. 516, "SPIE Takes a Look Underwater." Society of Photo-Optical Instrumentation Engineers 13th Annual SPIE Technical Symposium, Washington, D.C., August 19-23.

MEDLOCK—L. I., Dept. 140. "Compensatory Education for Quality Control and Relationship of Quality to Industry, Education and the Community." Southern California Industry-Education Council Conference, Lake Arrowhead, Aug. 7.

NEWSOM—B. D., Dept. 592. "Relevance of a Space Research Centrifuge to Future Space Flight Programs." International Academy of Aviation and Space Medicine/XVII International Congress on Aviation and Space Medicine, Oslo, Norway, Aug. 4-8.

PARDEE—D. R., Dept. 150. "Computer Message Switching Specification and Design Approach." Association for Computing Machinery, Las Vegas, Nev., Aug. 27-29.

Papers presented at the Cryogenic Engineering Conference, Cleveland, Ohio, Aug. 19-21.

CAMPBELL—M. D., Dept. 572. "Investigation of Propogation Failure of Linear Shaped Charge at Cryogenic Temperatures."

EVANS—E. A., Dept. 582. "An Investigation of the Effects of Spatial, Thermal, and Velocity Inhomogenities on Two-Phase, Single Component Cryogenic Choked Flow."

PLEASANT—R. L., Dept. 966. "Hydrogen Peroxide Motor Exhaust Heating to Components at Cryogenic Temperatures in the Vacuum of Space."

STARK—J. A. and M. H. BLATT, Dept. 584. "Cryogenic Zero-Gravity Heat Exchanger Vent System."

Papers presented at the AIAA/2nd Guidance, Control and Flight Dynamics Conference, Pasadena, Calif., Aug. 12-14.

FLOWERS—D. H., Dept. 986. "Explicit Guidance Equations for OAO, AIS, and Mariner."

GREENSTEIN—J. L., Dept. 986. "Postflight Guidance Accuracy Analysis of Atlas/Centaur/Surveyor Flights."

Retirements

CONVAIR

BALES—James T., Dept. 143-3. Seniority date April 5, 1956, retired Aug. 30.

BORGERDING—Joseph W., Dept. 250-1. Seniority date Nov. 5, 1956, retired July 17.

CRAIGMYLE—Pearl B., Dept. 967-9. Seniority date Sept. 14, 1943, retired Aug. 30, 1968.

HANSON—Clayton A., Dept. 250-5. Seniority date Oct. 15, 1953, retired Aug. 23.

HOELPERL—Ernest G., Dept. 979-3. Seniority date March 30, 1959, retired Aug. 30.

JOHNS—Ethelbert W., Dept. 015-0. Seniority date Sept. 16, 1947, retired Aug. 31.

McDANIEL—Roy E., Dept. 059. Seniority date June 5, 1956, retired Aug. 30.

PRINGLE—Ervin G., Dept. 763-1. Seniority date Nov. 27, 1951, retired Aug. 28.

REVIER—Claire J., Dept. 401-3. Seniority date July 27, 1951, retired Aug. 31.

SAPPINGTON—John D., Dept. 250-3. Seniority date Aug. 22, 1950, retired Aug. 2.

SCHELLBACH—Carl W., Dept. 144-3. Seniority date Jan. 28, 1957, retired Aug. 30.

SCHMIDT—Leo G., Dept. 101-7. Seniority date May 22, 1947, retired Aug. 30.

STOLTZ—Mary E., Dept. 780-1. Seniority date June 20, 1956, retired Aug. 31.

WALKER—John H., Dept. 850-0. Seniority date Aug. 15, 1960, retired Aug. 30.

Personals

The family of William K. Baker, Dept. 144-3, wishes to thank our many friends at Convair for the lovely flowers, cards and many acts of kindness following the recent loss of our husband and father. Your generosity at our time of need was sincerely appreciated.

Helen Baker and sons

* * *

Your sympathy and kind thoughts following the death of Louis I. Dunn (retired 1965) will always be held in grateful remembrance.

Mrs. Louis I. Dunn

Deaths

CONVAIR

HALL—Marshall E. Jr., Dept. 250-3. Died Aug. 30. Survived by his wife Mildred and sons Joe, James and Jerry.

OLIVER—George W., Dept. 553-2, died Aug. 29. Survivors include his wife, Lee Elizabeth, his mother, three sisters and a brother.

Daughter Awarded Health Scholarship

Ikonija "Connie" Sekulovich, 21, daughter of Vojislav Sekulovich of Convair's Dept. 142-1, has been awarded a $1,500 health professions scholarship from the University of California at San Diego for her first year in medical school there.

She was graduated with honors in June from the University of California at Riverside.

Club Sponsors Fall Courses

(Continued from Page 1)

program management, industrial relations and quality control will be among topics covered.

"Presentation Workshop," scheduled both at KM and LF, will include practical tips and pointers to aid individuals in preparing and giving more effective presentations. Richard W. Keehn, Atlas program manager, will be course supervisor.

"Computers—the New Way of Knowing and Doing" will be given at both plants and will provide basic information on what a high-speed digital computer system is, how it operates and how it can be used in various kinds of work.

"Flight Mechanics Introduction" will be presented at Kearny Mesa and is designed for engineers and managers needing an acquaintance with principles of flight mechanics. It will highlight applications, rather than mathematical derivation, of powered flight and orbital mechanics.

"Principles of Managing," scheduled at KM, will cover basic principles of managing with emphasis on creative thinking as a leadership skill. Harvey Seibert is course supervisor. There will be a $5 course charge for non-members.

"Effective Writing" will be given at LF and will place particular emphasis on writing techniques for technical reports and sales proposals. There will be a $2 charge for non-members.

"Marketing and Salesmanship" will be given at both plants and will include five selected films.

Walt Hicks, director of the club's personal development committee, said a series of one-hour "spotlight" sessions in which managers of various programs will speak and technical papers of general interest will be presented.



MERIT SCHOLAR—James H. Wood, winner of one of General Dynamics Corporation's National Merit scholarships, receives award plaque from Jack L. Bowers, Convair general manager, left, as his parents, Mr. and Mrs. Paul E. Moore Jr., observe. Wood will attend University of California at Irvine, majoring in science.

Division 'Doing Well' Toward 1968 Objectives, Bowers Says

(Continued from Page 1)

are now working on the F-111 program with the number expected to be 4,000 by year's end.

Bowers said the division is "making good progress" toward winning a major military aircraft program with the VFX and VS(X) studies.

Convair is one of five study contractors on the VFX program and is competing against a Lockheed-LTV team in the VS(X) contract definition effort.

Bowers noted that 15 of 16 Atlas launches this year and 91 of the last 94 have been successful, with one failure of a modified Atlas ICBM in an Advanced Ballistic Re-Entry Systems (ABRES) mission this year.

Centaur completed its "perfect success record" in the Surveyor program in January but failed to achieve second engine burn in an Applications Technology Satellite launch last month.

Bowers said the division is continuing efforts to win new Atlas and Centaur missions.

He said the division's Range Measurement System-2 and Centcon programs, like many other military programs, are hampered by lack of funds and that the division's oceanographic buoys have national and international applications, although they are well out in the future.

The division's goal of improving quality in production departments by another 20 per cent this year is being surpassed — with current statistics showing performance about 24 per cent over the 1968 objective. The division also hopes to win the Air Force Systems Command's "Craftsmanship" award.

Improvement of the division's safety record also is being achieved with Convair, at the end of July, leading all other General Dynamics divisions.

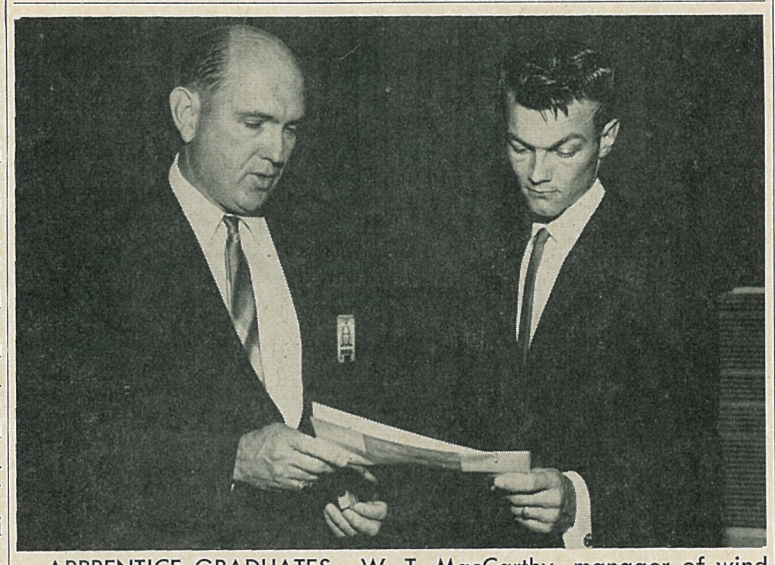
Bowers said the financial portion of the Convair Integrated Management System (CIMS) has been installed and is working well.

"We have been using CIMS on our proposals and on VS(X) were rated first in management evaluation, of which CIMS was a principal portion," he commented.

Bowers said progress is being maintained on the "Management Upgrade" program with Convair ranked in the top category among divisions in a semi-annual report issued by Corporate Headquarters.

In summary, Bowers said the division has "trimmed down" to an efficient and competitive unit.

"We now have the tools to keep going and to build up, so it's a matter of putting the tools to work — going after those objectives."



APPRENTICE GRADUATES—W. T. MacCarthy, manager of wind tunnels (left), congratulates S. K. Willis on completion of four-year apprenticeship program, and presents him with Journeyman Certificate. Willis will work in Dept. 507, high speed wind tunnel, as an engineer electronics technician senior.

Questions and Answers

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(Continued from Page 1)

general Corporation interest, pages which run throughout the General Dynamics newspaper network serving many divisions and subsidiaries, of which Convair is one. Therefore, competition for space in the four pages available to Convair is keen and there are many demanding sectors to be accommodated. Although the classified ad section has been considered many times, it has invariably been rejected as being too high a price to pay in news space better used otherwise.

★ ★ ★

Q—Why can't salaried personnel obtain payment in lieu of vacation?

A—A vacation program is designed to provide time away from the job for rest and recreation. It is not designed to supplement income.

★ ★ ★

Q—Can the safety crib at Lindbergh Field be open at 7 a.m. one day a week for third shift, so we don't have to wait around or make a special trip back?

A—Yes. Arrangements have been made for an attendant to be on duty at 7 a.m. Wednesdays.

Science Fair Guests Dance at Clubhouse

More than 100 high school Science Fair Navy cruiser award winners from cities west of the Mississippi were guests of the CRA Junior Science Club for a presentation and dance Aug. 2[illegible] at CRA Clubhouse auditorium at Kearny Mesa.

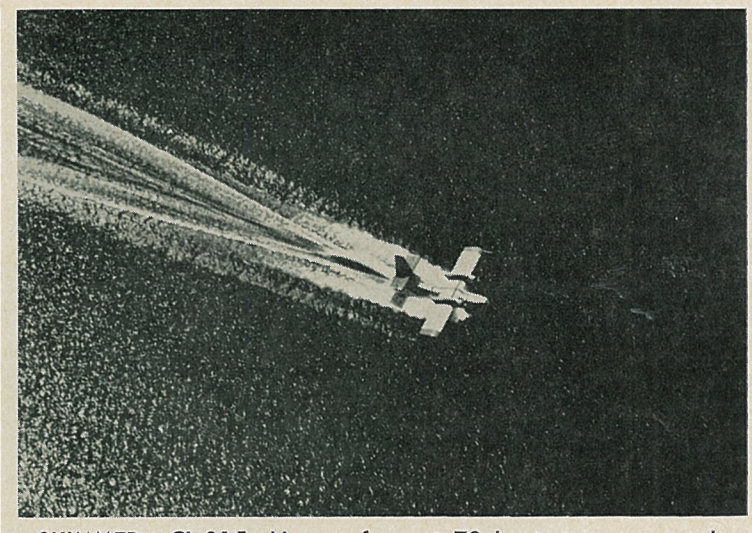
Ronald J. Sweig, Navy public affairs officer, showed slides and discussed plans for Sea Lab III prior to the dance.

San Diego County's winner of the cruiser award was Andy Sturman, 17, son of Max Sturman of Convair's Dept. 731-0 and a senior at Madison High School.

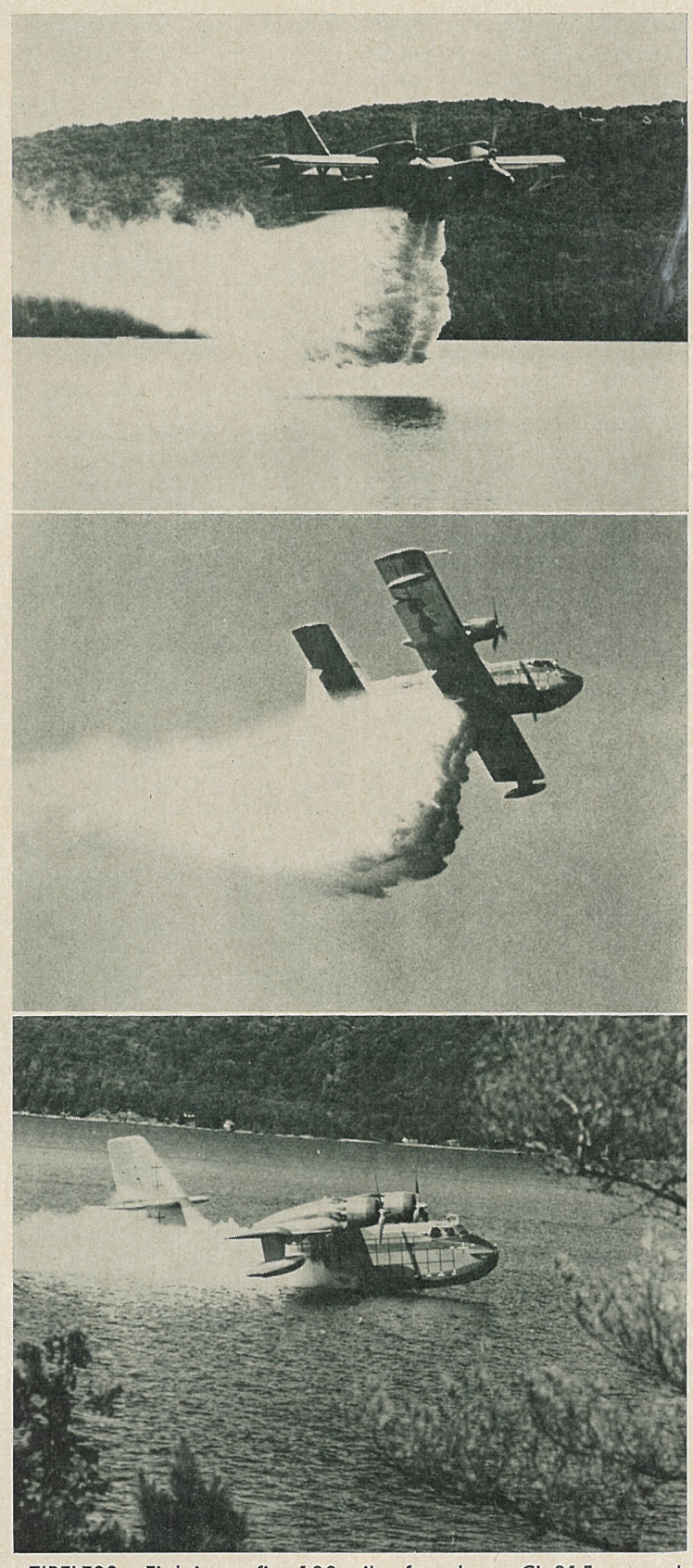
Sturman's Science Fair project, titled "Single sideband generation by sideband folding and audio filtering," won Air Force and Institute of Electrical and Electronics Engineers awards as well as the Navy cruiser award.



SPECTACULAR—Canadair CL-215, world's first airplane specifically designed for water bombing forest fires, has successfully picked up and dropped its maximum load of 12,000 pounds of water (12,000 Imperial gallons) in recent tests at Lac Simon, Quebec.



SKIMMER—CL-215 skims surface at 70 knots to scoop up load of water in 12 seconds.



TIRELESS—Fighting a fire 100 miles from base, CL-215 can make 75 water pickups and drops in single day's operations, with only one refueling necessary.

Patent Granted on Support System Used in Weightlessness Simulator

Earl L. Christian, a Convair Dept. 491-0 manufacturing development engineer and General Dynamics Corp., as assignee, have been issued a patent for a frictionless, self - aligning gas bearing support system utilized in Convair division's six-degrees-of-freedom simulator.

The device is used to simulate certain aspects of weightlessness, enabling a test subject to move freely in an essentially friction-free environment.

The unique bearing system uses inflated "O" rings to hold the faces of precision machined gas bearings against the 18-inch-diameter cylindrical center shaft of the simulator.

Nitrogen gas flowing through the air bearings while the simulator is in use creates a thin gas film between the bearings and the cylinder for frictionless movement.

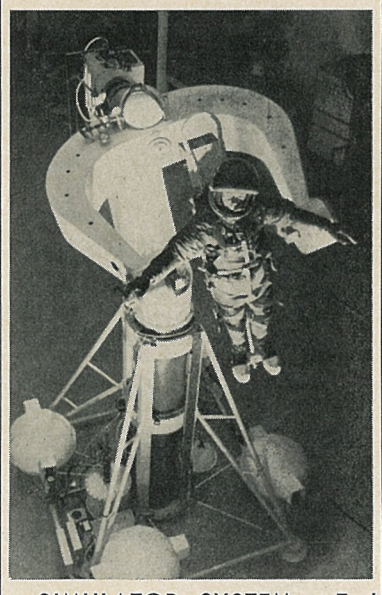
Resiliency of the "O" rings, actually rubber hoses with automobile tire valve stems for inflation, enables the eight air bearings to seek their own alignment as minute "side load" pressures are exerted on the cylinder.

Force applied by the test subject for up or down movement causes the eight-foot-long cylinder, supported on a column of gas, to move vertically and rotate for simulation of movement that would be experienced in actual "zero gravity" of space.

The six - degrees - of - freedom simulator, constructed from magnesium for weight saving, uses a total of 19 gas bearings. Four are in foot pads for freedom of motion in the horizontal plane, eight are around the circumference of the central cylinder and one inside on a piston for vertical and yaw movement, and six are in the gimballing system for pitch and roll movement.

The gas bearings and "O" rings around the central cylinder can not be seen easily from the exterior of the simulator since they are positioned between the cylinder and circular metal support rings on the exterior support frame of the simulator.

Convair's life sciences Dept. 592-0 personnel have used the simulator, built in 1964, for a variety of astronaut "work assignment" simulation tests. It also has been used for tests with hand-held astronaut maneuvering units and "jet shoes."



SIMULATOR SYSTEM — Earl Christian, Convair manufacturing development engineer, shown testing six-degrees-of-freedom simulator, has been awarded patent for self-aligning gas bearing support system used with simulator's cylindrical center shaft.

The simulator towers 15 feet in the air and "floats" over a 25x33-foot terrazo floor that was precision machined and ground flat to within .002-inch in 10 feet in Bldg. 4 at Kearny Mesa.

Compressed air from shop lines is used to pressurize the system prior to start of tests. Six high-pressure cylinders on the simulator supply nitrogen gas, eliminating deviations that would result if external hoses were used.

Although the self-aligning cylinder support system devised by Christian was designed to simulate the frictionless environment associated with space and has been used to date only in the six-degrees-of-freedom simulator, it has potential for many other applications.

A similar approach could be used for overhead crane systems, including those with large-diameter square shafts, and for near-vibrationless monorail transportation systems of the future.

Perhaps even more important, according to manufacturing development engineers, is its potential for use in underwater applications.

The air or gas being used would provide its own lubricant underwater where conventional bearings will not hold up.

Christian believes systems that can be developed easily for use in underwater "sea laboratories" of the future would be reliable and require little maintenance.



Daingerfield Operations Suspended; Long Wind Tunnel Test Career

Active operations at the Ordnance Aerophysics Laboratory at Daingerfield, Texas, operated by General Dynamics, have been indefinitely suspended by direction of Department of Defense and U.S. Navy due to lack of funding.

Ever since World War II, important technical research and development data has been generated from the jet engine facility located on the shores of Lone Star Lake in East Texas, about 150 miles east of Dallas.

J. E. Arnold had served as General Dynamics manager of the laboratory since operation began in 1945. Since 1961 the facility has been administered as part of Pomona division.

Efforts are being made to place the laboratory's approximately 180 employes at other General Dynamics divisions and to aid them in finding other employment.

While the official target date for closing the Daingerfield facility was Sept. 3, a small group has been retained for a period of time as yet undetermined for final closing of the facility and disposition of equipment.

Tests for the Bumblebee missile program (forerunner of Terrier and Tartar) were started at Daingerfield in 1945 with sea-level jet engine test cells and a supersonic wind tunnel. The wind tunnel, which at that time was the largest in the free world, provided data for both missile and aircraft development for a 12-year period.

With the introduction of much larger and more elaborate facilities, the wind tunnel was closed at the end of 1957. Since then all test facilities have been used for sophisticated environmental testing of jet engines, rockets, and auxiliary systems.

Many of the nation's leading aircraft and missile companies have tested their products at the Daingerfield facility. Developmental work for all branches of the services has included missiles such as Polaris, Hawk, Redeye, Regulus, Terrier, and Tartar.



HALF-MILLION MAN—Bill Olson of Convair's Dept. 144-2, left, receives latest in series of cost reduction certificates from Eric Callard, reliability control department cost reduction coordinator. Olson's cost reduction and value control efforts during past 3½ years have been credited with saving Convair more than $500,000.

Bill Olson 'Champion' In Cost Commendations

Bill Olson, receiving inspection supervisor for Convair's reliability control Dept. 144-2, could easily fill a trophy case with the 23 certificates of commendation he has been awarded during the past 3½ years for cost reduction and value control projects.

Olson, now on loan to Pomona division as general supervisor in final assembly inspection, has personally been credited with saving Convair more than $500,000 in cost reduction and cost avoidance since the certificate awards program began Jan. 1, 1964.

Department representatives believe he holds a division record for number of commendation certificates received.

One of this year's major value control projects to which Olson was a major contributor resulted in eliminating special packaging, marking and handling and duplication of X-ray procedures for many small electronics parts and has been audited for a total cost avoidance of $656,633.

Olson was credited with $136,633 of the total savings. Others credited with savings for the same project included George Gray of reliability Dept. 144-3, Carl Priest of launch vehicle programs Dept. 964-5 and Gerry Zahrte, C. T. Talbott, F. L. Pike and R. J. Archibald of material Dept. 810-0.

Eric Callard, cost reduction coordinator for the reliability control department, said many of Olson's commendation awards have been for cost reduction and value control projects that have been implemented through "team effort" by representatives of several departments.

75 Lunch Tables Purchased by CRA

Convair Recreation Association has purchased 75 metal and wood lunch tables at a cost of more than $3,000 for use by employes at Lindbergh Field and Air Force Plant 19.

The tables are being assembled and painted—some yellow, some green and some blue—by CRA employes at Missile Park before being trucked to permanent locations.

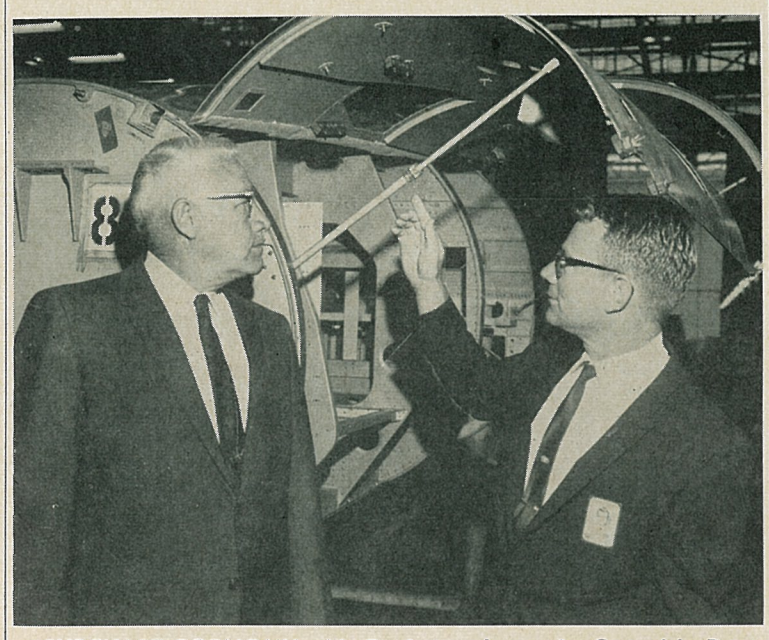
George Schmiedel, CRA supervisor, said 20 of the new tables will be used at Plant 19 and the remainder at Lindbergh Field — all adjacent to cafeteria or lunch wagon areas.



FINANCE AWARD—John D. Milling, left, Convair controller, presents finance department's quarterly Craftsmanship banner and award certificate to John Jodka, manager, for general accounting Dept. 191. Personnel in the department charted efforts toward 20 realistic goals each month during the quarter and met or exceeded objectives on more than two-thirds of total.



MATERIAL BANNER—Convair material department's quarterly Craftsmanship achievement banner has been awarded to financial and program control Dept. 850-0. Looking over award, from left, are George Himel, Frank Lucas, Earl Hixson, Robert Amick, Frank Brown and A. L. Deane. Dept. 850-0 reached or exceeded its second-quarter goal in 13 of 16 Craftmanship program areas.



PURCHASE ECONOMY—N. D. Jones, buyer in Convair's Dept. 820-0, right, and C. G. Keach, Lindbergh Field plant material manager, look over new F-111 electronics bay telescoping door strut assembly. Jones received Employe Suggestion award of more than $2,000 for securing assemblies of new design at lower cost.

Buyer Ferrets Out 'Over Design,' Earns $2,209 Suggestion Cash

A Convair division material department buyer at Lindbergh Field has received a $2,209.30 Employe Suggestion award for finding a method to reduce substantially the cost of telescoping strut assemblies for F-111 electronics bay doors.

Noel D. Jones of Dept. 820-0, the buyer, believed drawings for the strut assemblies reflected "over design" for the function they served.

Charles G. Keach, Lindbergh Field plant material manager, said Jones visited the assembly area, studied functional requirements for the assemblies and solicited suggestions for alternate designs from procurement sources.

As a result, a design by a local firm was approved after a number of refinements. The new assemblies, incorporating standard "off the shelf" components, are now being purchased at a significant reduction in price.

Two of the telescoping strut assemblies are used to support each of the F-111 electronics bay doors.

Firm business saving of $26,559 was achieved as a result of Jones' efforts. A valuable weight reduction also is being achieved.

Effort Praised In Purchasing

Thirty-one employes of Dept. 820-0 received recognition for outstanding performance in ceremonies recently at Lindbergh Field.

C. G. Keach, LF plant material manager, complimented all Dept. 820-0 employes for their work, and presented suggestion award checks to three buyers in recognition of their cost reduction achievements. They were N. D. Jones, awarded $2,209.30; R. H. Feeley, $195.80; and R. L. Kellogg, $15.

In addition, cost reduction certificates were presented to: G. A. Axt, T. E. Barker, E. A. Bowen, H. N. Brown, A. R. Brunner, L. J. Burnett, W. C. Buxton, G. B. Byers, F. Cicalo, W. L. Davis, R. H. Feeley, M. Formanek, N. Grand, E. Haberkamp, J. H. Harper, F. D. Heflin Jr., R. W. Herbst, A. R. Hermann, K. F. Horn, T. N. Houk, N. D. Jones, R. L. Kellogg, C. Lent, H. C. Leppart, D. M. Parker, R. O. Patillo, E. R. Smith, J. H. Stromberg, H. M. Sturdyvin, M. Swinney, and W. L. Thompson.

Electronics-SD Will Hear Prof.

Lawrence E. Vredevoe, professor school administration and supervision at UCLA, will address the Electronics-San Diego Management Club at its Sept. 18 meeting at Kings Inn.



L. E. Vredevoe

A social hour at 5:30 will be followed by dinner at 6:30. Professor Vredevoe's talk, "Personnel Management in the Next Decade" will begin at 7:30. A raffle will follow.

Vredevoe received a BA from Hope College in Michigan and his MA, PhD. from the University of Michigan, College of Literature, Science and Arts.

Listed in Who's Who in Education, Vredevoe has contributed more than 40 articles to professional publications and has appeared on several educational radio and TV programs.

A spotlight topic, "Change toward Professionalism within NMA," will be presented by W. E. Magnuson, NMA Zone A director.

Tickets are available from Management Club boosters.

HUMORIST TO TALK BEFORE MGT. CLUB

Humor will be combined with a simplified smattering of high-level science at the Convair Management Club dinner meeting at 6:45 p.m. Tuesday (Sept. 17) in the Mission Bay Room at the Bahia Hotel on Mission Bay.

"Einstein, Relativity and All That Jazz" will be the topic for Ray Stanish of Los Angeles, who has entertained thousands on such zany topics during the past 15 years.

Stanish formerly served three years on the faculty of Case Institute of Technology in Cleveland and for 11 years with TRW Systems, Inc., in various positions including that of assistant to the director of the Industrial Computers division.

Tickets are on sale at $3.25 each through all club boosters. A no-host social hour will begin at 5:30 p.m.

Analytical Methods Course Continues In Two Sections

Two sections of "Analytical Methods-2" will be taught at Convair's Kearny Mesa plant beginning Sept. 26 for employes working toward a master's degree in management science from United States International University.

Dr. Tjor Tjersland will instruct one of the sections from 5 to 7:30 p.m. Mondays and Wednesdays. Dr. Kwang-Wen Chu will teach the other from 5 to 7:30 Tuesdays and Thursdays. Both will meet in Bldg. 26, Room 1.

Fifty-six division employes were enrolled this summer in "Analytical Methods-1," first in-plant course under the program.

David Chigos of educational services said 40 of the group have been accepted as graduate students by the university with the other 16 still having to meet one or more requirements.

Employes wishing to enter the program are being counseled by phone by Dr. Andrew Papageorge, assistant dean of the USIU graduate school.

Employes taking the course who have been accepted as graduate students have their tuition paid by the division.

Chigos said some of those enrolling in "Analytical Methods-2" also will be taking another evening course in the degree program during the fall semester at the university's Elliott campus.



IDEA REWARDED—D. J. Collins, manager of manufacturing engineering, Electronics-SD, presents certificate of award to Theresa Gonzalez, Dept. 424, for her idea which saves $1,900 annually. Idea, for which Mrs. Gonzalez received $190, eliminated photographic step used in brass stencil manufacturing.

Elimination of One Step Results In Award For Senior Illustrator

Theresa Gonzalez, senior illustrator in Dept. 424, Electronics-SD, had an idea for a better way to make brass stencils used in component identification. Now she is $190 richer.

Mrs. Gonzalez' idea eliminated the need to use photographic services when making brass stencils. She suggested making the stencil drawing directly on drafting linen prior to stencil-making. Formerly a pencil vellum was made, which was then photographed and a translucent positive made from which the brass stencil was etched.

Estimated savings amount to approximately $1,900 annually.

Mrs. Gonzalez has been with General Dynamics for ten years, eight of which have been with Electronics-SD.

Host of Prizes Await Best Convair Golfers

CRA Golf Club's biggest event of the year — the plant championship tournament — has been scheduled Sept. 14-15, 21-22 and 28-29 over Cottonwood Country Club's Monte Vista course.

Del Dimmitt, CRA golf commissioner, said a field of 300 to 350 is expected. Starting times can be reserved by calling ext. 511 LF.

The plant champ will have his choice of the $250 entry fee for the 1969 Andy Williams San Diego PGA Open or a complete set of professional model clubs of like value. The runner-up will receive the alternate prize.

Other prizes will include golf bags, carts, clubs, shirts, etc.

Dimmitt said any GD golfer can play but to be eligible for major prizes he must have played in four previous CRA tournaments.

All participants will compete in medal play Sept. 14 or 15 — with the four low net golfers from each flight receiving awards and going into the elimination match play.

Play-offs of flight winners will determine Sept. 29 finalists. All play will be based on individual CRA handicaps.

Blakey Is on Panel For Contract Talks

C. W. Blakey, Convair division contracts director, will be among panelists for a "Truth in Negotiations" conference to be presented Sept. 20 by the San Diego chapter of the National Contract Management Association at Sea World's Atlantis restaurant on Mission Bay.

Key conference speakers will include Jack Livingston of the directorate for procurement management, Office of the Assistant Secretary of Defense; and Walter F. Pettit, San Francisco contracts attorney.

Convair personnel assisting include J. H. Edwards, vice president of the NCMA chapter, and I.U. Eggert and H. A. Lambert, all of launch vehicle programs, Dept. 955-0.

Cost for the conference, including buffet luncheon, is $6 for NCMA members and $8 for others. Phone Edwards, ext. 2154 KM, for reservation forms.

Handwriting Analyst Will Address Wives

Mrs. Robert Whiting, a handwriting analyst, will be guest speaker at a Convair Wives Club luncheon at noon next Wednesday, Sept. 18, in the Terrace Room of the Valley Ho restaurant.

A "sew and show" event also is scheduled. Members wearing apparel of their own creation will have their names entered in a drawing for a $5 cash award.

Hostesses will be Mrs. I. E. Whitbey and Mrs. George Robinson. Reservations should be made by noon Monday with Mrs. L. H. Allen, 583-2868, or Mrs. L. F. Klepach, 264-1013.

The Convair Wives' monthly gourmet potluck luncheon will be held Sept. 25 in Room C of the CRA Clubhouse. Each member is asked to bring a "home prepared" dish from a favorite recipe and her own table service. Coffee, bread and butter is furnished.

Spanish Classes Set For Area High Schools

A course in conversational Spanish is being offered by Hoover and Mission Bay Adult High schools.

Classes will meet Tuesdays beginning Sept. 17 at Hoover and Thursdays beginning Sept. 19 at Mission Bay from 6:30 to 9:30 p.m.

Both classes will be taught by Convair's Jim Hardison, Dept. 113-0 and registration may be made by calling Hoover High at 282-7683, Mission Bay High at 273-3221 or by attending the first class session.

Is it news? Pick up a phone and call GD/NEWS

Con-Trib Oks $6,410 Grants

Grants totaling $6,410 were approved by the Convair Employes' Con-Trib-Club committee at a recent meeting.

The Mayor's Council on Youth Opportunity was allocated $2,400 for an acquatic program being conducted by Neighborhood House with $1,600 to be used for employment of swim instructors, $600 for six scholarships to the Red Cross National Aquatic School, and $200 to be applied toward costs of portable pool rentals.

An additional $500 was granted to the Mayor's Council on Youth Opportunity to be applied toward the Area E Community Action Council's home remodeling program.

The San Diego Urban League was granted $1,510 for use toward purchase of a used truck and furnishing and operating a trailer as a mobile employment office.

Other grants included $500 to the Childrens' Dental Health Association, $500 to the Crossroads Foundation, $500 to Nazareth House and $500 to South Bay Pioneers.

Evening College Courses Slated

Employes have until the first class session to register for six 18-week San Diego Evening College courses to be given at Kearny Mesa and Lindbergh Field beginning next week.

The courses are among 10 required for the Certificate in Supervision and also provide credit toward the associate in arts (AA) degree.

Courses given at LF will be "Introduction to Supervision" and "Human Relations-B" on Mondays and "Industrial Economics" on Tuesdays. Classes will meet from 4 to 7 p.m. in Bldg. 14.

Scheduled at KM are "Management and Organization" on Tuesdays, "Human Relations-A" on Wednesdays and "Production Planning" on Thursdays. Classes will meet from 4:30 to 7:30 in Bldg. 17.

Bus Tour to Vegas Set For Oct. 18-20

CRA has announced plans for a "champagne tour" to Las Vegas Oct. 18 through 20.

The tour "package" will include round-trip bus transportation, two nights at the Hacienda Hotel, two breakfasts, a gourmet buffet dinner, a champagne cocktail hour, a midnight show, five free-play casino chips, lounge entertainment and tips.

Cost will be $42.75 per person based on double hotel room occupancy and $55 for singles.

Deadline for reservations with full payment is Oct. 11.

Cleft Lip Children's Parents Organizing

General Dynamics families who have children with a cleft lip or palate have been invited to become members of a recently formed organization, Associated Parents of Cleft Lip and Palate Children.

Next meeting will be at 7:30 p.m. Sept. 17 at Children's Hospital, 8001 Frost St. For additional information, phone Sharron Williams, wife of Bruce Williams of Convair's Dept. 170-1 and secretary of the organization, at 277-6206.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is Sept. 17. Call ext. 1071 IF or 3322 KM. All meetings are held in CRA Clubhouse unless otherwise noted.)

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ADVENTURERS—Meeting Sept. 18, 7:30 p.m. Mt. Whitney climb, Sept. 28-29.

BALLROOM DANCING—Intermediate class of instruction each Monday, 7:30 p.m.

BICYCLE CLUB—Brown Field, Otay Mesa 50-mile ride, Sept. 14.

BONAIR FLYERS—Meeting next Tuesday, Sept. 17, 7:30 p.m.

BRIDGE—Duplicate bridge sessions each Friday, 7:30 p.m.

CAMERA CLUB—"Miss Photogenic" contest 1-4 p.m., Oct. 6, Missile Park.

CHESS—Play each Wednesday, 7 p.m.

COINEERS—Meeting next Wednesday, Sept. 18, 8 p.m., Lindbergh Field cafeteria.

DELTA DIVERS—Abalone race, Sept. 15.

FENCING—Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th and C Sts.

FISHING CLUB—Meeting Tuesday Sept. 17, Gillespie Field Clubhouse. Potluck 6:30 p.m.; meeting 7:30.

GOLF—Plant championship, Sept. 14, 15, 21, 22, 28 and 29, Cottonwood.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Monday through Friday; 10 a.m. to 5 p.m. Saturday.

ICE SKATING—GD family skate night Thursday, 6:15-7:45 p.m., Mission Valley Ice Arena.

JUNIOR SCIENCE—Meeting Sept. 20, 7:30 p.m.

MINIATURE RAILROAD—Operating sessions Saturday, Sunday and holidays, CRA Missile Park.

PISTOL CLUB—Shoot Sept. 22, 9:15 a.m., S.D. Police Pistol Range.

RADIO CLUB—Meeting next Thursday Sept. 19, 7:30 p.m.

RIDING CLUB—Open show, Sept. 15, CRA horse ring.

RIFLE CLUB—Senior shoots, second and fourth Wednesday, 7 p.m. Juniors shoot first and third Saturdays, 9 a.m., Gillespie Field Range.

ROCKHOUNDS—Meeting next Wednesday Sept. 18, 7:30 p.m.

SAILING CLUB—Meet fourth Wednesdays each month, 7:30 p.m.

SPORTS CAR CLUB—Meeting tonight (Sept. 11), 7:30 p.m., Convair executive dining room, Lindbergh Field.

SQUARE DANCE CLUB—Dance 8-10 p.m. each Thursday. Beginner 16-week course starting Sept. 17.

STAMP CLUB—Meeting tonight (Sept. 11), 7:30 p.m.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m.

WIVES CLUB—Luncheon Wednesday, Sept. 18 at noon. Terrace Room, Valley Ho Restaurant.

WOMEN'S GOLF—Tournament, Saturday, Sept. 14 at River Valley course.

50-Mile Otay Area Bike Ride Planned

Members of CRA Bicycle Club will meet at 7:30 a.m. Saturday, Sept. 14, at the Bank of America parking lot at Jamacha and Sweetwater roads, Spring Valley, for a 50-mile Otay area ride.

The cyclists will pedal through National City and Chula Vista, east to Brown Field for a view of the airport and PSA training facilities, and on to the international border for a snack. The return trip will be via Telegraph Canyon Road and will include a tour of the Southwestern College campus on Otay Lakes Road.

Ride leader is Agostino Arcidiacono, ext. 2241 LF or (home) 454-6329.

Mt. Whitney Climb Planned Sept. 28-29

Adventurers will challenge rugged Mt. Whitney in a two-day hike to the summit Saturday and Sunday, Sept. 28-29.

Members will rendezvous at Whitney Portal. They will back pack to Mirror Lake Saturday morning and camp. Back packs will be left behind early Sunday when the trek to the 14,495-foot summit will begin.

Call trip leaders Ray Madden, 284-8252 or Joe Quijada at KM ext. 2746 or (home) 284-0883 for information.

Coineers to Feature Token Collection

Token collections will be featured at a meeting of the CRA Coineers Club at 8 p.m. Sept. 18 in the Lindbergh Field cafeteria. A "swap session" will be held in place of a regular program and members are asked to bring coins or other items of numismatic value for swapping.

Ray S. Toy of Convair's Dept. 250-2 won the Coineers' trophy for best exhibit at the August meeting.

Open Horse Show Set For Sunday, Sept. 15

An open horse show, sanctioned by the Horsemen's Executive Council and the Southern California Gymkhana Association under sponsorship of the CRA Riding Club, is set for this Sunday, Sept. 15 at the CRA ring.

Gerry Washburn, show manager, said gymkhana events will kick off the program at 8:30 a.m. with equitation taking up the afternoon schedule.

Ten classes are open in each competition with entry fee $1 per class. Entry fees can be reduced by half for those who turn out for a Saturday morning work party at 9 a.m. to ready the riding ring for the show.

Chrome trays and ribbons will go to winners in each class with ribbons through 6th place in adult competition and 10th in junior events.

An added treat during lunch break is in store when George Meyer from Lomita shows his famous Appaloosa Pat Hand.

A fine bleacher crowd and 297 entries highlighted the club's Aug. 25 show. High point club members in morning gymkhana were Davey Watson and Susan Harmer and equitation high point leader was Gayla Washburn.

Low Net of 59 Wins CRA Golf

Harry Wurtz of Convair's Dept. 955-0 carded a low net 59 to take honors in the CRA Golf Club monthly tournament Aug. 24-25 over San Carlos. About 200 golfers participated.

Other winners, each receiving merchandise prizes, were:

1st Flight — Charles Maikish, 572-2, low gross, 75; Ed Oliwa, 761-0, low net, 67.

2nd Flight — John Simpson, 967-9, low gross, 77; Pete Rodriquez, 452-0, low net, 65.

3rd Flight — George Kureri, 401-6, low gross, 79; Fred Aguero Jr., dep., low net, 68.

4th Flight — Harry Allison, 761-0, low gross, 85; J. F. Eller, 143-3, low net, 65.

5th Flight — George Hasti, 031-0, low gross, 85; Martin McEachern, 250-0, low net, 68.

6th Flight — Fred Green, 130-0, low gross, 93; Ray Esparaza, 761-0, low net, 68.

7th Flight — Ray Irvine, 595-0, low gross, 95; Robert Frye, 955-0, low net, 65.

8th Flight — Frank Jenkins III, dep., low gross, 80; Larry Herrera, 574-1, low net, 67.

Organ Music Fans Plan Organization

If you are an organ buff, beginner or accomplished, or just plain enjoy listening to organ music, you are invited to attend a meeting Sept. 24 to formulate plans for an organ club.

John Cooper, chairman of the organ committee, said that if enough interest is shown, the club will become part of the CRA Hi Fi and Music Club. The 7 p.m. meeting will be at Cooper's home, 6015 Broadmoor Drive, La Mesa.

Those interested are asked to call Les Cozzens, KM ext. 1196, Hi Fi and Music Club Commissioner Arch Ellsworth, LF ext. 2047 or Cooper at LF ext. 1069 or (home) 465-3946.

Slide Show Slated For Adventurers

A show of slides taken by members of CRA Adventurers during the past year will highlight a 7:30 p.m. meeting at the Clubhouse Wednesday, Sept. 18.

Four competitive events with prizes going to winners will be judged. Special exhibits and slides taken by members on club trips will be displayed.

Contests are not restricted to club members, but items entered by non-members must have been taken on sponsored club trips.

Discount Offered On Follies Tickets

Reduced price tickets to the Ice Follies are available at all CRA employe services outlets.

Tickets are for Sunday, Sept. 15, 6 p.m. performance. Five dollar tickets are $4, and $3 tickets sell for $2. Juniors 16 and under can get tickets for one-half regular price.

Camera Club Plans Special Photo Contest

CRA Camera Club has scheduled a two-part "Miss Photogenic" photography contest with all interested GD employes and family members invited to participate.

In the first part of the contest, female employes and family members over 16 may pose for photographers from 1 to 4 p.m., Oct. 6 in the Western Town area at CRA Missile Park.

Trophies will be awarded to "Miss Photogenic" and first two runners-up. Selection of winners will be based on votes by registered photographers.

"Modern Western Girl" will be the contest theme. Costumes will be western or modern western attire only. Contestants must be willing to represent the Camera Club at the Mission Bay Photo Festival Oct. 19 and 20.

Entry forms are available at CRA and employe services outlets. Bruce Williams is contest chairman.

All employes and family members will be invited to photograph contestants and submit entries for a salon showing at 8 p.m. Oct. 20 in the Photo Arts building in Balboa Park.

Trophies will be awarded for best color slide and best black and white print as judged by club members.

Individual entries will be limited to four slides or prints. Slides must be in standard 2 x 2 or 2¼ x 2¼ mounts and prints must be 8 x 10 unmounted. Commercial processing will be permitted in each of the divisions.

Photographers planning to submit slides or prints may register during the Miss Photogenic contest and must be present at the salon show for judging of entries and the awards ceremony.

Color slides will be returned if requested in advance. Others, and all black and white print entries, will be forwarded to contestants pictured.

Jim Mildice, Camera Club commissioner, said the club numbers 32 employe families.

The club meets the first and third Sunday each month and has a well-equipped darkroom in CRA Clubhouse at Kearny Mesa.

Kampmann Winner In Pistol Match

Ernie Kampmann fired a 258 to lead the way in the center fire Short National Match Aug. 25 in CRA Pistol Club action. Don O'Brien was a close second with 253.

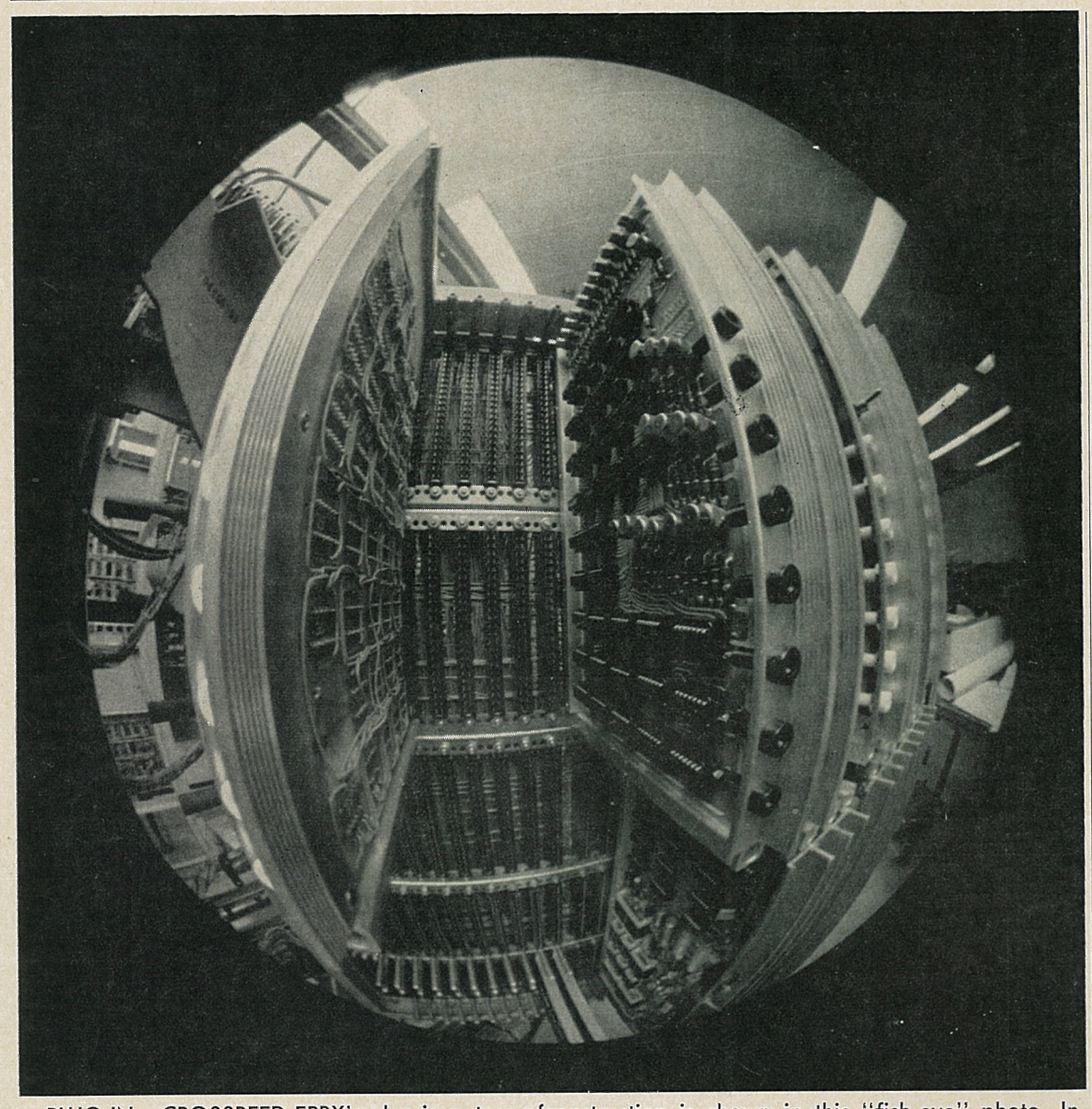
In the Master Class bracket, O'Brien bested Ralph Schneider 288 to 284, and Ralph Picard won the Expert Class with 276.

Club competition continues with a Sept. 22 shoot at the San Diego Police Pistol Range.

Ishihara-Jaminet Team Wins Bridge

Sally Ishihara and Jerry Jaminet were winners of the CRA Bridge Club's duplicate bridge game Aug. 30.

All GD employes and family members are invited to Bridge Club play at 7:30 p.m. Fridays in CRA Clubhouse. Phone Bob Rustad, commissioner, ext. 3521 KM or (home) 276-4448 for information.



PLUG-IN—CROSSREED EPBX's plug-in nature ofconstruction is shown in this "fish-eye" photo. Integrated circuits are used on cards. New electronic phone exchange was developed by Stromberg-Carlson.

New Stromberg-Carlson Exchange Called 'Telephone System of 70s'

Stromberg-Carlson's new electronic private branch telephone exchange went on field test recently for the first time.

The compact exchange, the first in a family of CROSSREED switching systems, is designed to provide new features such as call-back, abbreviated dialing, transfer and inquiry as well as all of today's standard features. The system is compatible with existing electromechanical rotary dial central telephone exchanges.

The CROSSREED system, developed in engineerings common control section under Adam Joregensen, is expected to become the telephone office of the 1970s.

Integrated circuits are used in the built-in memory. Gold-plated contacts hermetically sealed in glass and protected from dirt, moisture and industrial fumes are used at all crosspoints. The system is modular with plug-in components.

Orrin Lee, project engineer, is in charge of the engineering, Jack Adams is assisting with circuit design, Al Terry, assisted by William McKee, handles testing, and Jim Hiscock, packaging.

At the Armed Forces Communications and Electronics Association meeting in Washington last May, this new switchboard generated considerable enthusiasm and interest. Its field trial will be under operating conditions and is expected to prove its feasibility for serving the independent telephone industry.

Deployment of Redeye Missile Completed in European Area

Deployment of Redeye in Europe, begun in January, was completed in August, the Stars and Stripes reports.

An article datelined Heidelberg, by Marion Lee, Stars and Stripes staff writer, stated:

"All armored, infantry and artillery battalions in Europe are to have a Redeye section composed of four to six teams—10 to 14 men. The section consists of an officer (section leader), section sergeant and two-man teams.

"Officers receive a five-week course at Ft. Bliss, Tex. Gunners are given three weeks additional training at Bliss after completing artillery advanced individual training at Ft. Knox, Ky.

"In initial testing, a group of quickly trained gunners from the 101st Airborne at Ft. Bliss downed 11 out of a dozen drones. The one miss was attributed to nervousness and tension since all gunners were firing the weapon for the first time.

"Only the honor graduate in each Redeye course actually fires a missile, a USAREUR special weapons spokesman said . . .

"In addition to actual manipulation of the weapon, all gunners are drilled in aircraft identification—something they continue as long as they are assigned to missile sections . . .

"An Army air defense official stressed, 'This is not a missile system. It is a battalion-type weapon, the same as a machine gun.'

"'This is strictly a ground-pounder's weapon,' the air defense official said. 'Redeye is defensive, not offensive. It gives ground forces highly mobile air defense.'"

"The air defense section said Redeye did not replace anything as such—rather complements a ground force's resistance."

On-the-Job Training Started For First 'Unskilled' Group

The first group of 11 unskilled employes being trained as aircraft structures and surface (S&S) assemblers by Convair division in cooperation with the National Alliance of Businessmen has completed five weeks of classroom and related workshop instruction and is now undergoing 16 weeks of on-the-job training in departments at Lindbergh Field and Air Force Plant 19.

Jack Kennedy and Al Stroing, special courses instructors in educational services Dept. 130-3, conducted the classroom work at Plant 19.

Kennedy said the new employes are highly motivated and anxious to learn.

Six of the new hires have been assigned to F-111 assembly Dept. 027 at Plant 19 for their on-the-job training, two to experimental Dept. 031 at LF and three to C-5 assembly Dept. 045 at LF.

The second class of 10 employes began classroom instruction Sept. 3.

Convair is receiving partial reimbursement of training costs from the U. S. Department of Labor through the President's JOBS (Job Opportunity in the Business Sector) program.

Daily Airlift Put in Effect

A daily airlift of Convair personnel between Lindbergh Field in San Diego and McDonnell Douglas in Long Beach was inaugurated recently.

Service was put into effect to aid Convair personnel working fulltime at McDonnell Douglas' Long Beach plant during initial stages of engineering and planning for the DC-10 project. Convair will build five of seven body sections of the giant DC-10 Tri-Jetliner on subcontract.

Convair engineering, research, operations and other personnel regularly scheduled for continuous service at Long Beach are eligible to use the commuter service on a priority basis.

The commuter plane, a 56-seat Convair 440, operated by Convair LF aircraft flight operations, Dept. 201-0, will make one round trip daily, leaving LF at 7 a.m. and returning at 5:10 p.m.

Bus. Administration Book Judged Best

A "Handbook for Business Administration" containing a chapter on "Quality Control and Reliability Engineering" by L. I. Medlock, Convair division director of reliability control, has been judged by the Academy of Management as one of the past year's six best books for management.

The 1,829-page handbook was published by McGraw-Hill Book Co. and edited by H. B. Maynard, president of Maynard Research Council, Inc., of Pittsburgh, Pa., and sells for $29.50. It provides comprehensive information on the nature and practice of management in general and specific management functions.

Medlock's chapter contains sections on quality control and reliability program management, management planning for the quality control and reliability program, trade-offs for management decision, control of procured and subcontracted supplies, and quality control audit.

New Contracts Lineup Set

Changes in Convair division's contracts organization, designed to support new business acquisitions, have been announced by Jack L. Bowers, division general manager.

F. S. Chambers, formerly manager of Kearny Mesa plant contracts, has been named manager of contracts for the DC-10 program (Dept. 110-3).

Chambers reports to C. W. Blakey, director of contracts, and will be located at Lindbergh Field. G. R. Vetter is chief of contracts for the DC-10 program.

H. S. Wurtz has been appointed manager of contracts for the KM plant (Dept. 110-1), reporting to Blakey. He will be responsible for launch vehicle programs contracts and all contracts formerly under Chambers' direction.

Launch vehicle programs contracts (formerly Dept. 955-0) has been transferred to KM plant contracts to facilitate the expansion of Wurtz's responsibility.

J. H. Edwards has been assigned as chief of contracts for launch vehicle programs. The LVP contracts group will remain in Bldg. 26, mail zone 110-11.

T. P. Dougherty, contract coordinator, reports directly to Blakey.

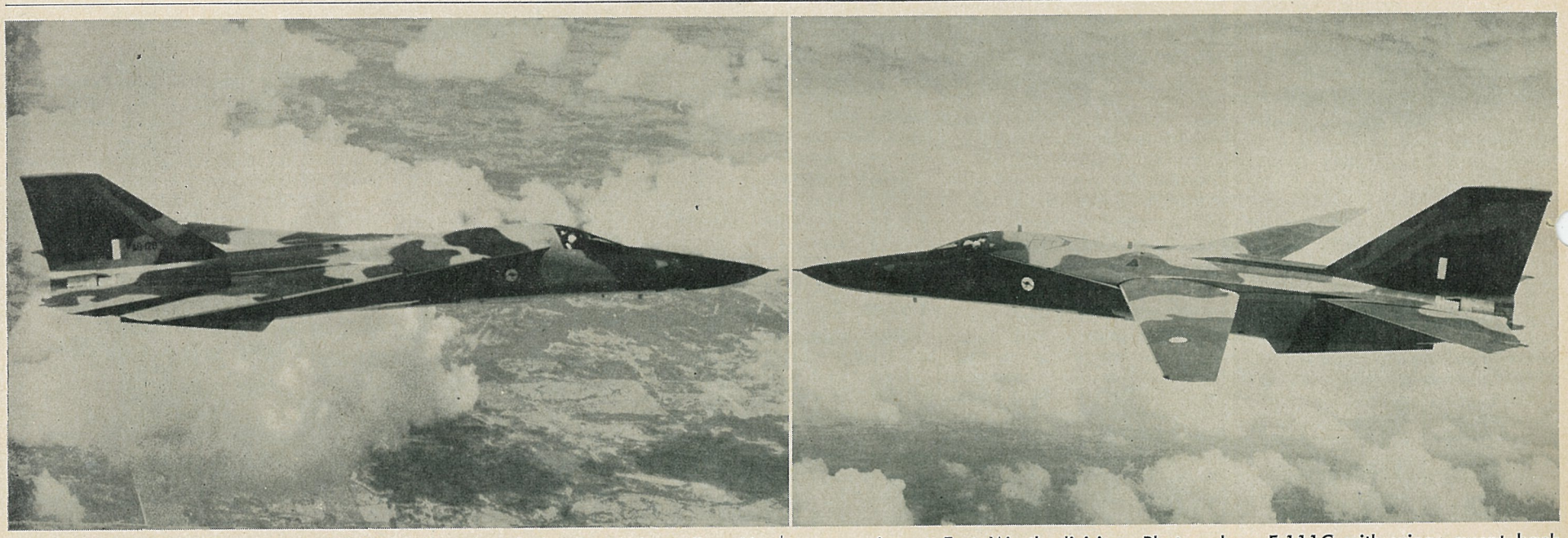
D. R. Stewart has been appointed chief of contracts for the VS(X) project and VFX program, S. J. Harris as chief of contracts for the Convair 600 program and new product development, R. J. Cairns Jr., as contract administrator for C-5 and C-141 programs, and J. R. Holter as contract administrator for buoys, swimmer delivery vehicles and airfield landing mats.

Stewart, Harris, Cairns and Holter report to D. H. Digges, manager of contracts for the LF plant.

Convair Controller To Speak in NYC

John D. Milling, Convair division controller, will be speaker Oct. 24 for an electrical and electronics roundtable at the Financial Executives Institute's 37th international conference in New York City.

He will discuss "Department of Defense cost, schedule control system criteria for U.S. defense contractors."

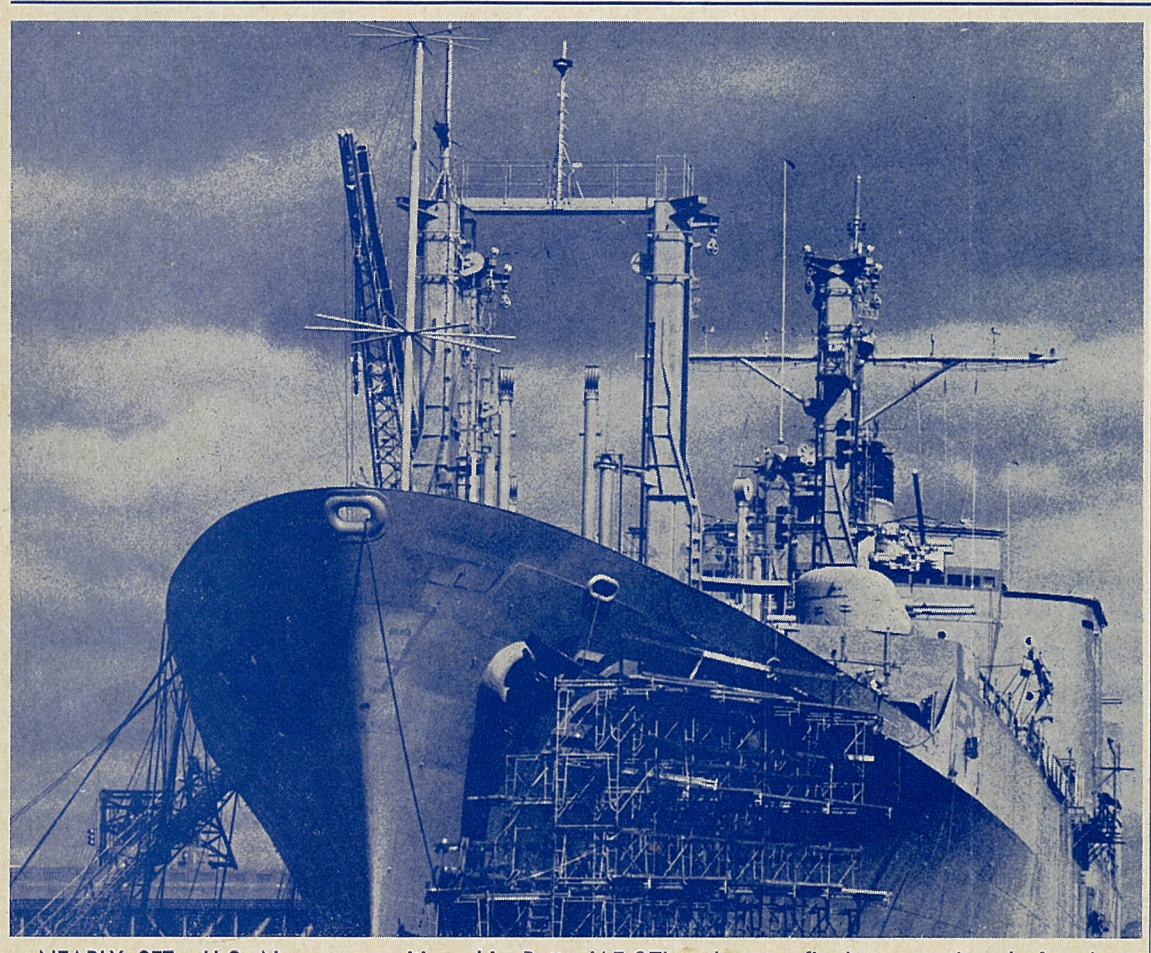


NOSE TO NOSE—Twenty-four F-111C strike aircraft for Royal Australian Air Force will be produced by General Dynamics. First was accepted last week in ceremonies at Fort Worth division. Photos show F-111C with wings swept back and spread outward, latter for takeoff and landing speeds.

MAIL EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 20 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, September 25, 1968



NEARLY SET—U.S. Navy ammunition ship Butte (AE-27) undergoes final preparations before leaving Quincy division shipyard for her scheduled Oct. 1 builder's sea trials. Staging along her portside was erected for painters.

Sonar Certification Completed by Whale At Quincy Shipyard

USS Whale (SSN 638) has moved another step closer to delivery by successfully completing her sonar certification testing.

"Whale was the first submarine to have a complete sonar certification program performed by the Quincy division, and she was the first ship of her class built by General Dynamics to be certified on the first attempt," said Richard L. Katzenstein, assistant to the submarine project manager.

Sonar certification testing for the nuclear attack submarine, scheduled to be commissioned next month at the Quincy division, was performed at dockside and at sea.

The sonar certification team (SCT) led by Robert Ricklifs of Navships and Stanley F. Niedzwecki of the Underwater Sound Laboratory, New London, Conn., observed and evaluated the testing.

The team reported the Whale's sonar system "is considered by the SCT team to have passed all of the requirements of the sonar certification test program following correction or satisfactory resolution of the 12 shipyard responsible deficiencies. . . ."

Their report also said "The general appearance of the equipment was clean. A surface examination showed that the workmanship of the Quincy yard was of high quality and the inspections of SupShips, Quincy, Mass., to be thorough and effective. This equipment was substantially ready for sea trial. The major operational defects found were those which can be found only by echo ranging and testing at sea."

"The close cooperation among the groups involved in the testing enabled Whale to be certified in accordance with her sea trials schedule," said Katzenstein.

In addition to the sonar certification team, other groups included the USN/USL team led by Robert G. Marchgat of Welex Electronics; General Dynamics' team, including Robert Law of electrical design, Electric Boat division, Robert White, John Richardson and James Donahue, all of Dept. 841, and Duane Sandberg, Welex field engineer working on contract with Quincy division.

U. S. Navy personnel directly involved in the testing included Lt. B. A. Lojko, Lt. C. L. Shoemaker, Chief H. Davidson, ST1 D. E. Bitterman, ST1 C. W. Moon, STS3 J. O. Erikson, STS3 T. J. Bolden, STS3 C. A. Bannerman and ST3 A. J. Mandero.

"All these men, and the others who weren't named, were extremely helpful and conscientious in assisting the SCT in performing the sonar certification requirements and in assisting the SCT," Katzenstein reported.

USS Whale, commanded by Cdr. William M. Wolff Jr., USN, first went to sea April 16. Since that time she performed a series of dockside and at sea tests of her systems in preparation for delivery to the Navy and formal acceptance into the fleet. Delivery and commissioning of USS Whale are expected to take place in mid-October.

'Floating Lab' on Seneca Lake Assigned Role in Navy Sonar Test Project

The General Dynamics deep water "floating laboratory" on Seneca Lake, N.Y., will play an important role in the United States Navy's new project to build the world's first ocean laboratory for testing sonar systems.

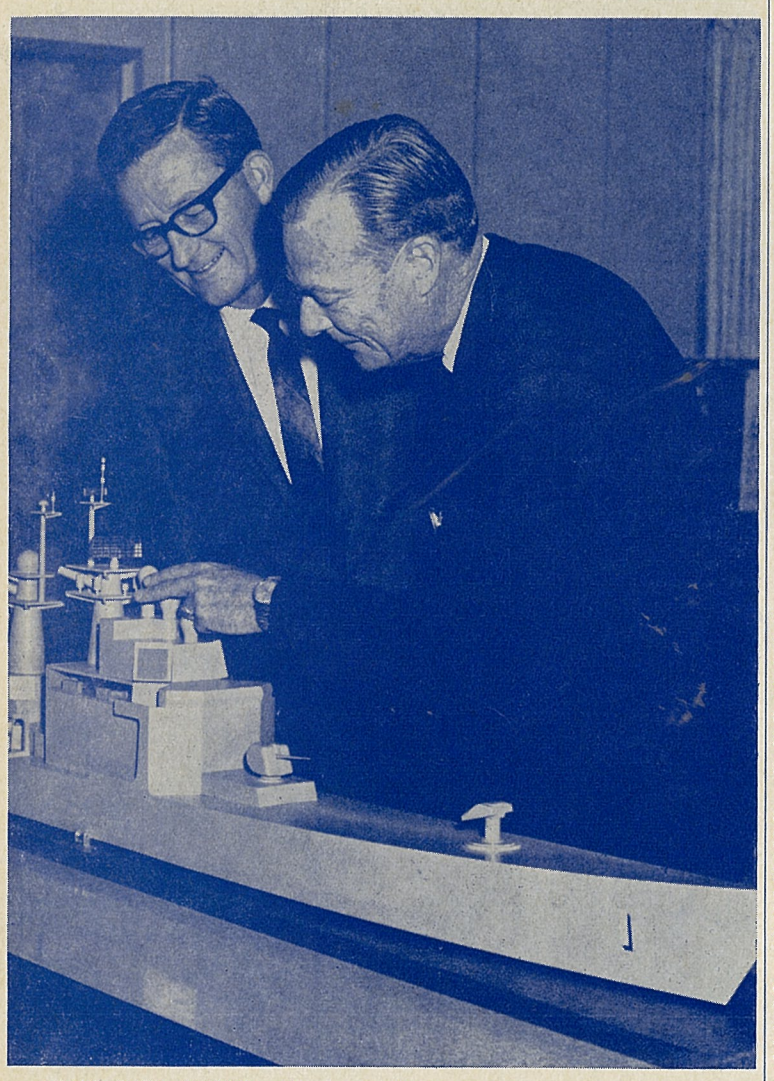
The Naval Ship Systems Command in Washington recently awarded a $9,126,672 prime contract to the Electronics division to develop and install a sonar range at the Navy's Atlantic Undersea Test and Evaluation Center (AUTEC) off Andros Island in the Grand Bahamas, W.I.

The new Bahamas range will calibrate and analyze the performance of sonar systems used in underwater detection and tracking of submarines and surface vessels.

Various items of sonar equipment for the AUTEC range, prior to installation in the Bahamas, will be pre-tested at the Electronics division's Seneca Lake Underwater Test and Evaluation Center, known as SUTEC.

SUTEC—only privately-owned facility of its kind in the United States—is situated on the west side of Seneca Lake, about three

(Continued on Page 2)



ASMS SHIP MODEL—Pomona division serves as program manager of carefully selected industrial team competing for ASMS (Advanced Surface Missile System)—new generation missile system to provide U.S. surface fleet with most modern and effective air defense capability possible by mid-1970s. Navy evaluation of contract definition phase proposals is currently under way and winners are expected to be announced soon. Discussing model are R. M. Kemp, right, of Pomona, ASMS team program manager, and Robert Polkinghorn, ASMS program manager for Hughes Aircraft Co.'s Ground Systems Group, one of team members. Oilers include Sperry Rand Univac Federal Systems Division and Sperry Gyroscope Division and Northrop's Nortronics Division.

Gunsight Test Contract Let

Pomona division has been awarded a $314,000 contract from the U.S. Air Force at Eglin, Fla., to demonstrate feasibility of a Pomona-designed system for substantially increasing accuracy in airborne boresighting of aircraft guns.

This system is applicable to all aircraft carrying the M61 Vulcan 20 mm cannon, such as the F-105, F-4E, and the General Dynamics F-111. Extensions of the concept may influence the design of future Air Force aircraft.

The cost-plus-incentive-fee type contract calls for the system to be tested at Eglin Air Force Base. Preliminary data-gathering tests started in August.

I. M. Douglas (Dept. 6-132) has been appointed project leader for the Dynamic Gun Aiming Program, W. J. Morrow, vice president-research and engineering, announced. Douglas reports to R. A. Nesbit, manager of weapon systems design. C. B. Young (Dept. 6-318) is test conductor.



WITH AFFECTION—Convair's John "Scotty" Doig is shown receiving American Airlines "Citation For Service" award from M. F. Curtin, AA director of inventory control.

Unprecedented

American Airlines Fetes Doig For Many Years of Service

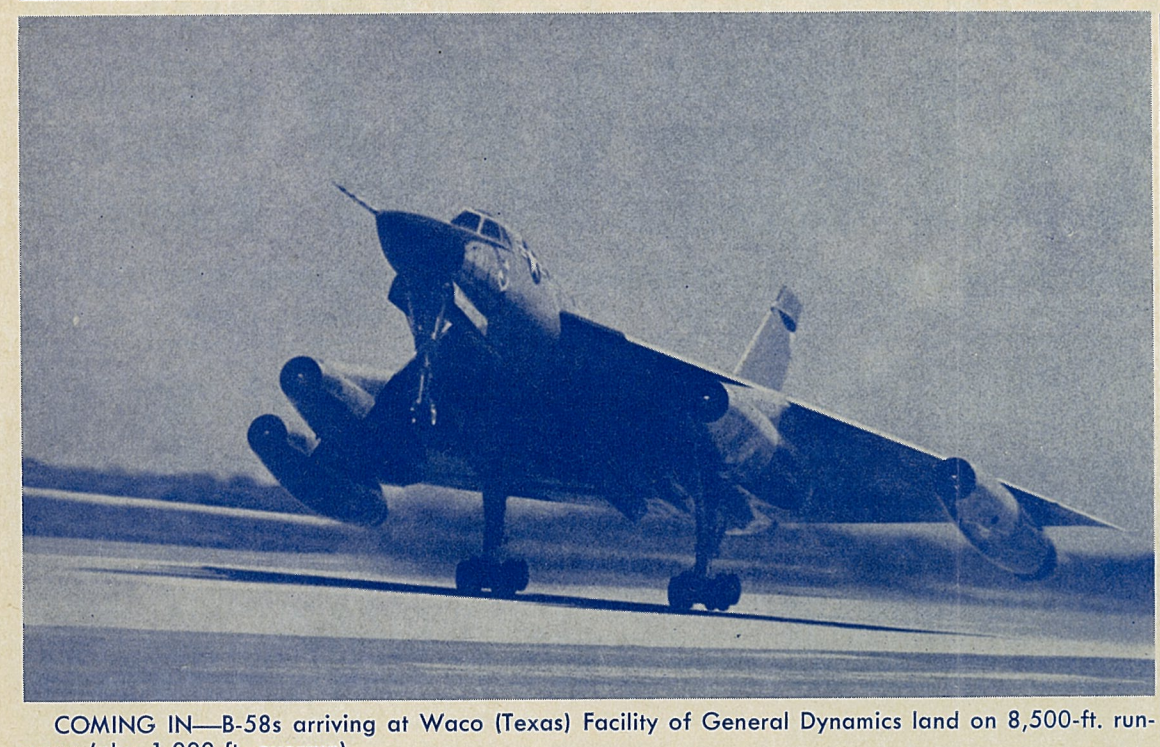
John "Scotty" Doig, Convair manager of support contracts, has received his share of honors over the years, but last month's testimonial banquet at Tulsa, Okla. was strictly one of a kind.

American Airlines was the host and as J. V. Dooley, AA vice president purchasing, communications & services, put it, the tribute was "unprecedented." Honoring a man for exceptional service to American is not unusual, but when he works for another company, then it is something else again! Dooley said.

Attending were most of AA management men "who have witnessed and appreciated the efforts of Scotty and his staff . . . from the early days of the 240 through the 990."

Doig is known as "Mr. Convair" in the purchasing and supply fraternity of the air transport industry and AA left no praise withheld in recalling the long association and "cooperative response to airline parts requirements, consistently maintained" by the support contracts group.

M. F. Curtin, AA director inventory control, and H. J. Fox, director purchasing, collaborated in presenting a framed "American Airlines Service Award" and an unusual timepiece affectionately inscribed: "John 'Scotty' Doig, A Man For All Seasons."



COMING IN—B-58s arriving at Waco (Texas) Facility of General Dynamics land on 8,500-ft. runways (plus 1,000-ft. overrun).

Now 1,250 Strong

'Dedicated Work Force' Credited With Success of Waco Facility

Fort Worth division's "dedicated" work force at Waco Facility—some 1,250 strong—is helping to keep two of Uncle Sam's aerial mainstays in fighting trim.

They're modernizing Strategic Air Command's B-58 Hustlers and at the same time turning out subassemblies for the variable-wing F-111.

E. E. Finch, Waco base manager, has seen employment expand rapidly at the facility from a nucleus of 100 Fort Worthians in July, 1967.

"We're now the second largest employer in Waco (a central Texas town of about 156,000 overall), and our payroll is about $800,000 a month," he said. "Generally, comments from the community have been highly favorable.

"In addition to spurring the economy, we're trying to be a good neighbor. We participate in the Waco United Fund through Con-Trib-Club and engage in other community and civic endeavors."

Finch said the facility is able to operate at relatively low cost because of the location and the "dedicated work force."

The facility is located at James Connally AFB. The base was purchased in 1966 by Texas A&M, and the Air Force will be completely phased out by Oct. 15.

"Our employment turnover has been virtually negligible," Finch said, "and our absenteeism rate is far below normal. You'd have to call this a conscientious group."

The work force is comprised now of only about 8 per cent Fort Worthians. Others were hired through the Waco office.

The facility has received an assist in training skilled employes from the James Connally Technical Institute, which now occupies many of the buildings on the 2,300-acre spread. Operated by Texas A&M, the institute offers 40 to 50 technical courses and promises to become one of the finest institutions of its type in the nation.

"Many of our F-111 people received brief training at the institute, followed by a couple of weeks of on-the-job type training at our facility," Finch said. "Most of the people hired for B-58 work are experienced technicians."

Fort Worth division has responsibility for maintaining two large hangar buildings, in which most of the B-58 modernization work is done; an 108,000-square-foot warehouse used for offices and F-111 subassemblies work; a variety of other small buildings; and the landing strips and taxi ramps.

The 8,500-ft. landing strips—with 1,000 ft. overruns—were widened to 200 feet to accommodate speedy B-58s. Almost all airplanes, except perhaps the oncoming generation of jumbo jets, can use the strips.

Waco facility personnel recently completed inspect-and-repair-as-necessary modification on 33 B-58s. The remaining SAC Hustlers were IRANed in the program which began at Fort Worth.

B-58s were funneled into the program from Grissom AFB, Peru, Ind. (formerly Bunker Hill AFB), home of the 305th Bomb Wing; and Little Rock AFB, Ark., where the 43rd Bomb Wing operates.

"In addition," Finch said, "we started an overlapping modification program this June on the B-58 bomb-nav system, cartridge starters and flight-control systems for about 92 aircraft. The program will run through June 1, 1969."

Additional "special work," such as reworking wing panels on the B-58s is done by specialists at both the Waco facility and at the two Hustler bases.

About 700 are involved in various phases of B-58 work, while roughly 550 are working on various F-111 subassemblies.

"For the most part," Finch said, "the parts are manufactured at Fort Worth, then shipped to Waco for assembling."

'Floating Lab' on Seneca Lake Assigned Navy Sonar Test Role

(Continued from Page 1)

miles south of Dresden, N.Y.

Main element of the Seneca Lake installation is the self-propelled test barge DARIUS, powered by two hydrojets having a 4,000-pound thrust. The barge is highly maneuverable with a top speed of eight knots. A loading dock is situated on the west side of the 40-mile-long lake. Permanent buoys and mooring stations are situated over 600-foot-deep areas of the lake.

The Electronics division will provide the entire complex of shore-based, shipboard and underwater installations for sonar data acquisition and analysis for the Navy's AUTEC sonar range in the Bahamas.

AUTEC will be the first research and development facility capable of comparing the predicted and actual performance of sonar systems and devices under the same deep water operational and acoustical environments as those encountered in fleet operations at sea.

The Seneca Lake facility has been upgraded to enable it to drive the largest transducers. Transducers are underwater sound sources that convert electric or hydraulic energy into acoustic signals which can be transmitted over long distances. Cable-delivered power from shore has replaced diesel-generated power on the DARIUS.

Seneca Lake, deepest of the Finger Lakes, is regarded as ideal for underwater acoustic research because of its depth, the fact that it is ice-free and protected from winds and because its thermal gradients are similar to many areas of the Atlantic Ocean.

The DARIUS, laden with sophisticated test gear and equipped with special cranes and winches to handle large transducers, is 165 feet long, 36 feet wide and 10 feet deep. Its transducer-handling capability has been fully tested at depths to 600 feet. Many types of transducers for the Navy have been tested at the facility.

In addition to the SUTEC facility on Seneca Lake, the Electronics division also has an indoor, underwater hydroacoustics facility at its plant on North Goodman Street in Rochester. This 500,000 gallon tank is 48 feet in diameter and 30 feet deep and can handle transducers of up to 5,000 pounds.

Officials explained that the Electronics division is able to draw upon, not only its own extensive experience and capabilities in undersea sonar and non-sonar systems but also the oceanographic skills of other units of General Dynamics.

Electric Boat division, which has pioneered in building nuclear submarines and deep submersibles, is building a small research submarine called AUTEC I, for use at the Bahamas range.

General Dynamics News

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Letter Sparks It

Device Developed For Fixing Wheelchair Patients' Weight

A letter from a Convair division retiree to Roger Lewis, president of General Dynamics, has resulted in Convair life science personnel designing an adapter for weighing patients in wheelchairs.

Roy E. Vogel, the retiree, realized the need for a simple means for weighing non-ambulatory patients when his late wife, was confined to hospitals and nursing homes for 30 months.

Physicians estimated her weight had dropped from 199 to 75 pounds but were unable to determine her weight accurately because of her inability to stand. Weight of the patient is considered in determining medication.

Vogel's letter, asking that plans for attaching a wooden platform to scales be produced for distribution to hospitals, was referred to Dr. Robert C. Armstrong, manager of Convair's life sciences Dept. 592-0, for evaluation.

Dr. Armstrong and George Drake, chief of life support engineering, suggested improvements and a two-foot-square adapter resulted.

The device incorporates wheel "tracks" that are beveled at the end and are close enough to the floor to permit wheelchairs to be rolled on to them without danger of tipping.

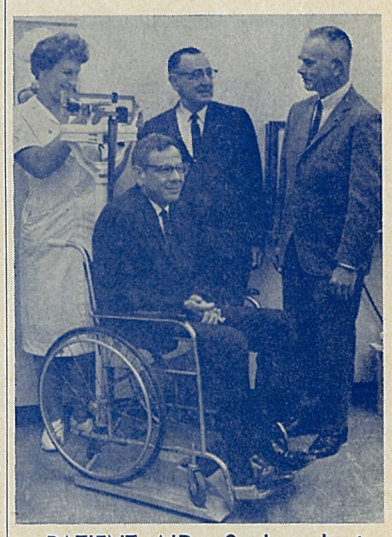
Patient weight is determined by subtracting wheelchair and adapter weight from the total scale reading.

The prototype is being used at the Casa Blanca Convalescent Home in San Diego.

Harold M. F. Behneman, M.D., medical director for the facility, said the device is of "great help to the attending physicians."

Through a special arrangement with Convair and its Employes' Con-Trib-Club, Sheltered Workshops of San Diego, a firm employing the handicapped, studied feasibility of producing the adapters from fiberglass for potential marketing. Con-Trib-Club this month allocated funds for tooling and test model production.

Sheltered Workshops officials already have one ready market for the devices. Their own employes who are confined to wheelchairs want to purchase first production units so they can weigh themselves at home!



PATIENT AID—Scale adapter for weighing of wheelchair patients is used as Convair nurse Scottie Payne checks weight of George Drake. Robert C. Armstrong, M.D., right, and Drake designed device at suggestion of Roy Vogel, retired Convair employe, standing center.



CONVENTION SPEAKER—Roger Lewis, president of General Dynamics, spoke to members of American Society for Industrial Security recently in Fort Worth.

Electronics-SD Transponder Performs Successfully In Minuteman Launch

Ground station tracking of the successful launch of the Minuteman III missile from Cape Kennedy, Fla., Aug. 16 was accomplished with the first MISTRAM-B transponder to be carried aloft on a missile flight.

The new transponder aboard the 60-foot-long Minuteman III was a compact, 18-pound radio receiver and transmitter package which received signals from the ground station on two channels and transmitted corresponding signals back to the operating MISTRAM station on earth. The frequency and wave forms of the signals were used to provide trajectory data on the missile. MISTRAM is a United States Air Force missile trajectory measurement system.

MISTRAM-B transponders are produced by the San Diego operations of General Dynamics Electronics division under Air Force contract in support of the Minuteman III program. The launch was from an underground silo at the Air Force Eastern Test Range. Field support services were provided by the Missile Transponder Research Laboratory at Cape Kennedy, operated by Electronics division.

The MISTRAM-B transponder, measuring 4 by 9.5 by 10 inches, is a two-channel, phase-locked unit incorporating silicon transistor circuitry package in printed circuit, "cordwood" modules.

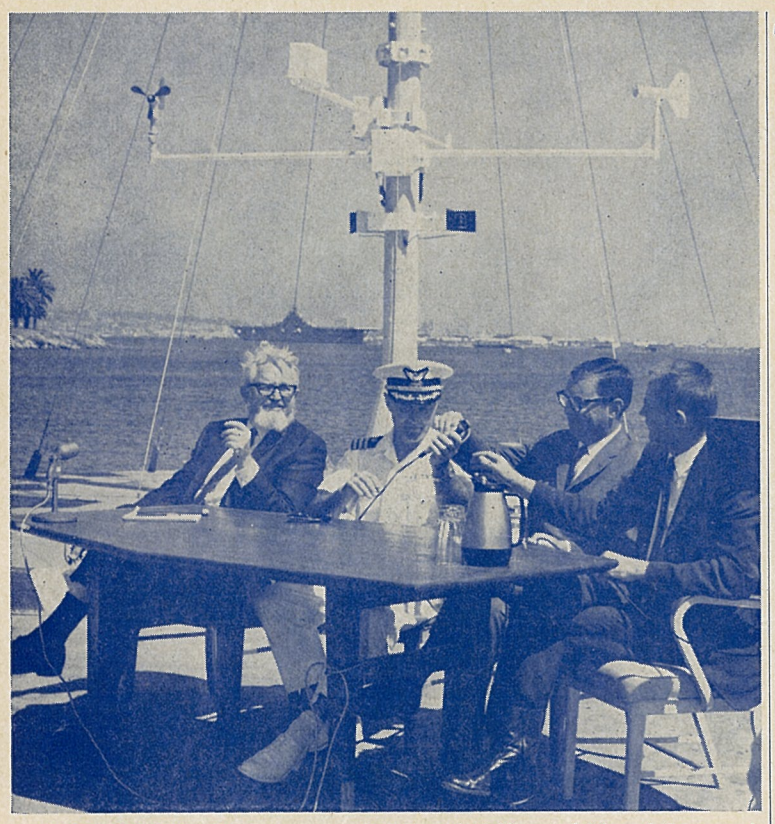
The long-range Minuteman III, a more powerful version of the Minuteman I and II, flew about 5,000 miles to a target zone near Ascension Island in the South Atlantic.

FW Division's Role In AF Course Lauded

Fort Worth division has been awarded a special certificate from the Air Force for its role in the production management education program.

The division participates in the program annually with the School of Systems and Logistics, Wright-Patterson AFB, Ohio.

"The plant orientation phase of this program is considered a highlight of the course," said Col. Allen E. Haveman, deputy commander, Air Force Institute of Technology.



DISCUSSION—Going over details of Office of Naval Research plans to use Convair and Scripps buoys to monitor weather and ocean data in North Pacific are, from left: John D. Isaacs, professor of oceanography; Cdr. Arthur Morrison, USCG, commander of cutter Acushnet; Robert Devereux, Convair ocean data systems program manager; Feenan Jennings, ONR.

1965 Savings Plan Members Face Decision in November

Members of the General Dynamics Savings and Stock Investment Plan who participated during the Plan's first "year" of operation (October - December 1965) soon will have a choice of withdrawing funds credited to them during that period, without penalty.

Or, they may leave their 1965 account intact.

Subject to withdrawal are the member's own contributions as well as those of General Dynamics'; $1 for every $2 the individual saved.

Each member with a 1965 account will receive two cards prior to Nov. 1 of this year, a blue card and an orange card. One card or the other must be signed and returned to employe services before Nov. 30 at the latest.

The blue card is for those wishing current distribution of 1965 accounts. For these, a valuation will be made as of Dec. 31, 1968 by the Plan's trustee, Bankers Trust Co. of New York, and members will receive cash for their holdings in the government bond fund as well as the diversified portfolio, if this is part of their option.

If the member's option includes General Dynamics common stock, the member will receive stock certificates, with any fractions being paid in cash.

Bankers Trust anticipates a settlement date of mid-February.

Members who choose the blue card option are reminded that they will be subject to regular income tax upon the dollar difference between what they contributed and what they receive. (The difference will include the General Dynamics' contribution of $1 for every $2 the member saved.)

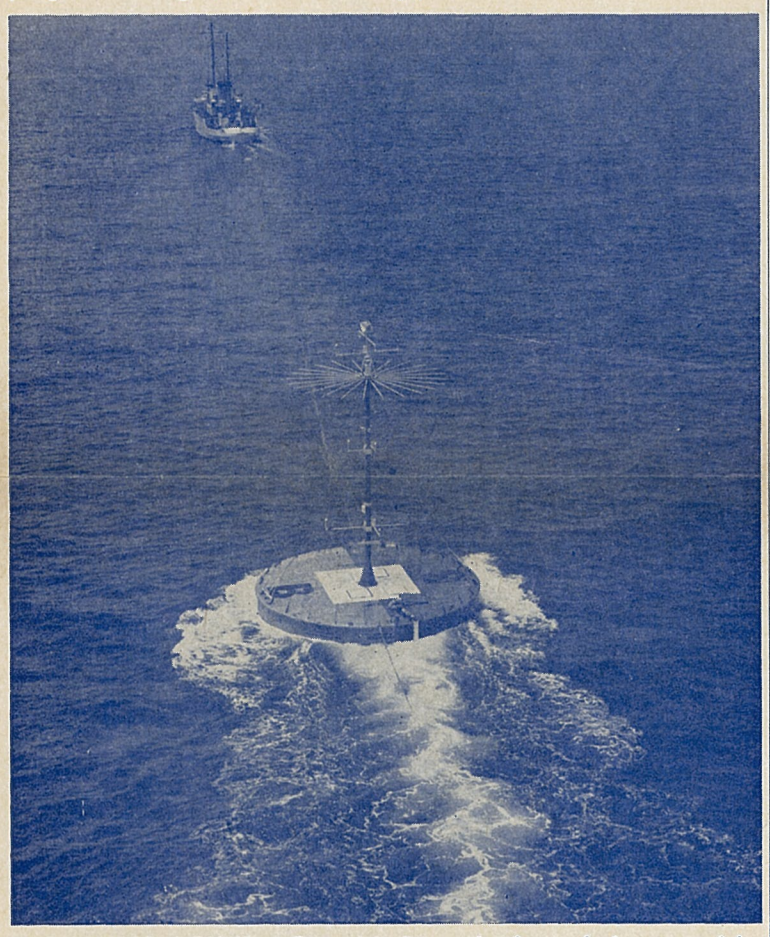
In the case of members who take the orange card route, their 1965 accounts will continue to be invested in the Plan and no distribution will be made. Their 1965 accounts will not again be subject to distribution, without penalty, until termination or retirement. Current interpretation of federal tax laws requires this provision.

"Your personal and family requirement are the determining factor in which choice you make," Algie A. Hendrix, General Dynamics' vice president, counseled.

"Perhaps you have a son or daughter in college and you need the distribution for educational expenses.

"However, if you have no such demands and are looking forward toward accumulating supplemental additions to retirement benefits and Social Security, then you might take a different view.

"During the next month or six weeks I suggest you weigh the matter carefully in the light of your personal situation."



OUTWARD BOUND—Convair's Bravo is shown being towed by Coast Guard Cutter Yocona en route to North Pacific stations. Monster buoy weighs 100 tons and is 40 feet across. Once on station Bravo will transmit data to Convair's mobile data center located at the Scripps facilities in La Jolla, Calif.

Ocean Data Stations Assigned Role in North Pacific Project

Convair - manufactured ONR ocean data stations Alpha and Bravo are earmarked for a major role in the Office of Naval Research's North Pacific experiment, being conducted by Scripps Institution of Oceanography.

This was announced at Scripps Nimitz Marine Facility in San Diego during recent ceremonies involving principals in the experiment—Feenan Jennings, head of physical oceanography programs, ONR; John D. Isaacs, professor of oceanography at Scripps; Cdr. Arthur Morrison, commanding the U. S. Coast Guard cutter Acushnet; Robert Devereux, Convair ocean data systems manager.

The Convair ocean data stations, each 40 feet in diameter and weighing 100 tons, will be used to collect weather and oceanographic data in conjunction with eight "Bumblebee" buoys, 16-foot, catamaran-type developed by Scripps.

The buoys will be deployed over a 1,500-mile, East-West area in the North Pacific about 1,200 miles north of the Hawaiian Islands.

Convair's Alpha and Bravo will monitor wind velocity, rainfall, solar radiation, air temperature, dew point and barometric pressure at 5, 10 and 15 meters above sea level. Below-water sensors attached to the 17,550-foot synthetic fiber mooring lines will sample salinity and temperature at intervals to the 1,500-foot level.

Data collected will be transmitted once a day from the ocean data stations to Convair's mobile data center, stationed adjacent to the pier at Scripps' facilities in La Jolla, and will be recorded on magnetic tape for analysis.

In addition, selected data will be forwarded by teletype in near real-time to the Bureau of Commercial Fisheries, the U. S. Navy and the U. S. Weather Bureau.

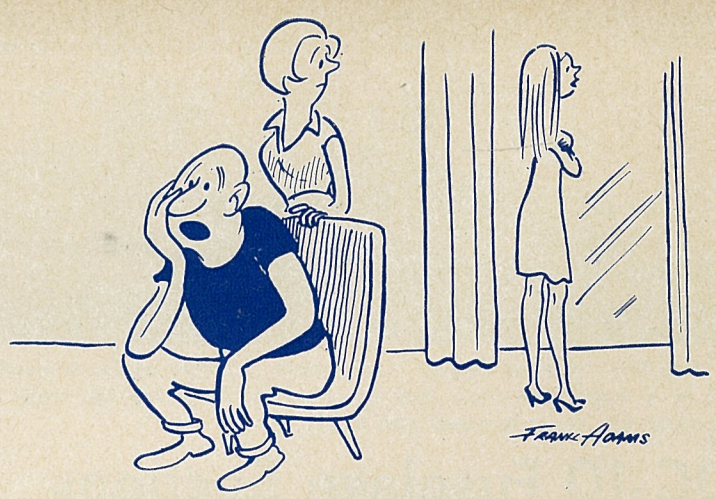
The Scripps "Bumblebee" buoys, so named because of their shape, will record weather data and sea temperature on meters which will be photographed hourly by automatic cameras aboard the buoys.

According to Prof. Isaacs, principal investigator for the project, the study will enable scientists to better understand the nature of large-scale, non-seasonal changes of the surface temperature of the sea in the North Pacific and determine inter-relationship of these with the large-scale weather patterns of the Pacific.

Convair's Bravo was deployed to its station in the North Pacific by the Coast Guard cutter Yocona in August and has transmitted data to Convair's mobile data center.

The cutter Acushnet left Sept. 12 with the "Bumblebee" buoys and will return about the end of October for ocean data station Alpha.

The Acushnet has been assigned to the North Pacific experiment for the duration of this phase of the project, expected to last one year.



"There's no communication . . . I can't explain a 'splashdown' and she can't describe a 'love-in' . . ."



SHOVING OFF—Prior to leaving San Diego are K. N. Jones, Bravo crew chief; Cdr. W. M. Barney, skipper of CGC Yocona; Ken Samples, Convair buoy project manager. Buoy Alpha is scheduled to leave next month for its station. Both buoys will monitor wind velocity, rainfalls and air temperature and in addition will have below water experiments.

This'll Teach Him To Read Fine Print

When Ken Jones, Convair engineer and crew chief for Bravo ocean data station, "signed on" aboard CGC Yocona deploying Bravo in Pacific, he unwittingly agreed to more than he expected.

Nestled among the sheaf he signed was enlistment papers as a Coast Guard recruit!

Jones was at sea in more ways than one until he was sure it was just a gag.

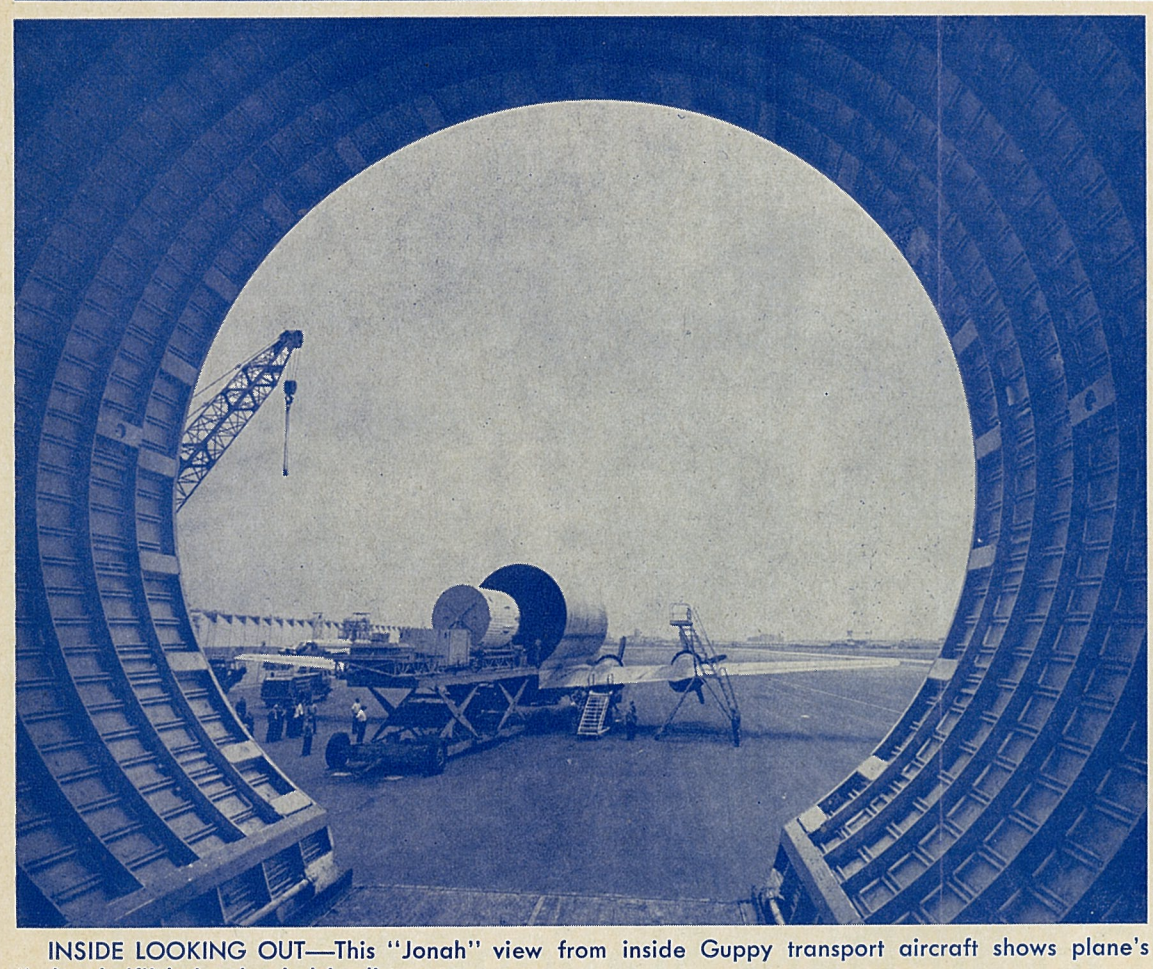
After all, with U. S. Navy duty, Sept., 1941-Oct., 1945, behind him, this would have been "double jeopardy!"

People Mobility

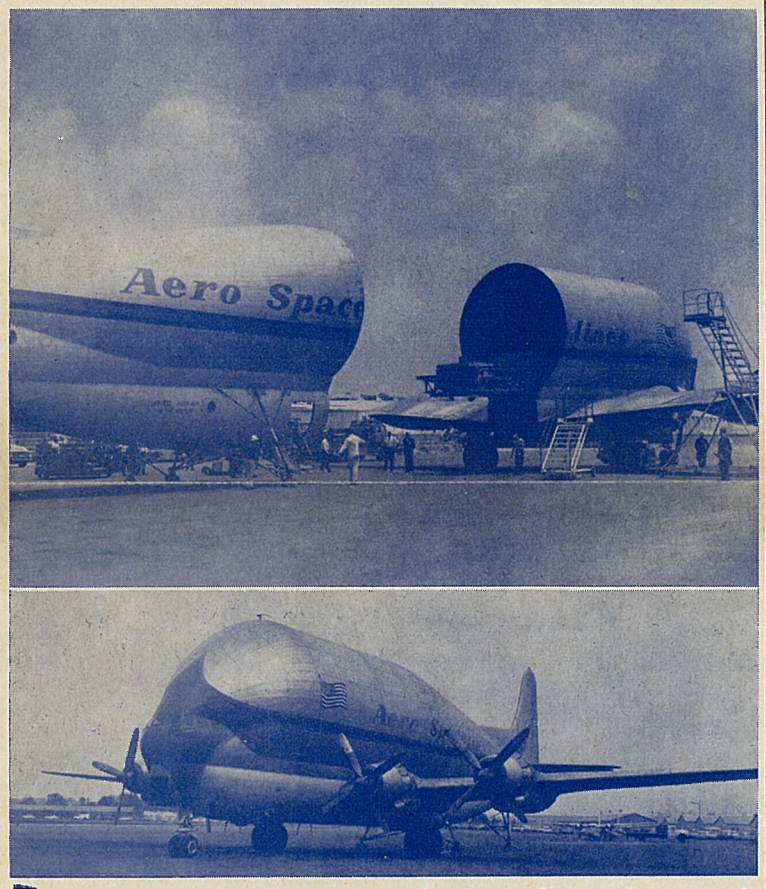
Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

CHARLES E. HARGRAVE (1960) from Stromberg-Carlson (Charlottesville) to Corporate Headquarters as manager, management development; **CHARLES G. SCHUTZ** (1961) from Convair division to personnel placement representative, Corporate Headquarters; **PAUL C. NELLI** (1950) from Convair to Fort Worth; **C. H. COLEMAN** (1960) from Electronics-SD to Quincy; **BERTHEL L. ROBERTS** (1958) from Convair to Electronics-SD as quality control specialist; **JOSEPH B. MUNRO** (1956) from Corporate Headquarters to Quincy; **HARRY NISBET** (1966) from Electronics, Rochester to industrial engineer, Convair; **R. H. THATCHER** (1951) from Pomona to staff specialist, Quincy; **CONRAD C. LINGENFELDER** (1952) from Electric Boat to Pomona as senior field service representative; **THOMAS J. DE LACY** (1966) from Electric Boat to senior research engineer, Convair; **DAVID L. ARRIS** (1959) from Convair to senior electronic engineer, Stromberg Datagraphics; **FRANCIS J. PARKINSON** (1953) from Electric Boat to Quincy as supervisor; **JOHN S. MEAD** (1951) from Quincy to advance program engineer, Electric Boat; **NORMAN H. ERNST** (1954) from Electronics-SD to Datagraphics as program planning analyst; **FRED E. ARNOLD** (1959) from Electronics, Rochester to Convair; **EDWARD J. WILEY** (1962) from Convair to Datagraphics as engineering drawings checker; **KENNETH F. MANCHAK** (1967) from Electric Boat to industrial engineer, Quincy; **WILLIAM E. LADD** from Electronics, Rochester to Convair as manufacturing engineer.



INSIDE LOOKING OUT—This "Jonah" view from inside Guppy transport aircraft shows plane's "other half" being loaded in distance.



MATED—"Humpty Guppy" is put back together again as neatly as in a magician's trick; and far more durably, too, as many a Centaur trip coast to coast can testify.

DC-10 Fuselage Sections Will Fly to Long Beach

Convair-built fuselage sections for the DC-10 Tri-Jetliner will fly long before the DC-10 makes its air debut.

Too big for transport by train or truck, the fuselage sections will fly from Convair's Lindbergh Field plant at San Diego to McDonnell Douglas' assembly facilities at Long Beach, Calif., aboard Aero Spacelines' whale-sized cargo aircraft called the "Super Guppy."

According to A. M. "Tex" Johnston, Aero Spacelines president, this is the first long-term commercial utilization of the expanding Guppy aircraft fleet.

However, the aircraft will be no new sight for General Dynamics. Often used by National Aeronautics and Space Administration for transporting major space hardware components, Guppies have carried Centaurs and related hardware from San Diego to Eastern Test Range more than a dozen times. In fact, a Guppy is scheduled to carry a Centaur to ETR this week for use on the AC-19 launch from Cape Kennedy.

Convair will construct five sections totaling 128 feet of the 179-foot DC-10 fuselage. Individual sections will range from nearly 20 feet in diameter—seven feet wider than current four-engine jet transport fuselages—to 14.4 feet. The "Super Guppy" has a cargo compartment 25 feet in diameter.

Prior to shipment, the two aft sections will be joined into one 38.8 foot element and the two forward sections into a single 54-foot element. An entire ship set can be airlifted in two air trips.

Boeing Unit Formed At Fort Worth Div.

Forty people from Boeing have been assigned to Fort Worth division to assist with testing of the Air Force's new short-range attack missile (SRAM) on the FB-111A strategic bomber.

Douglas B. Webendorfer is Boeing's Fort Worth test base manager. Ten from Boeing will join his staff each month until the total reaches 150.

FB-111A test aircraft equipped to carry and launch SRAM will originate flights in Fort Worth. Missile drops will be made over White Sands Missile Range in New Mexico.

Star II Again Aids Drillers

The General Dynamics submersible Star II, for the second time in less than a month, has been used to salvage oil drilling equipment from the floor of the Santa Barbara Channel off the California coast.

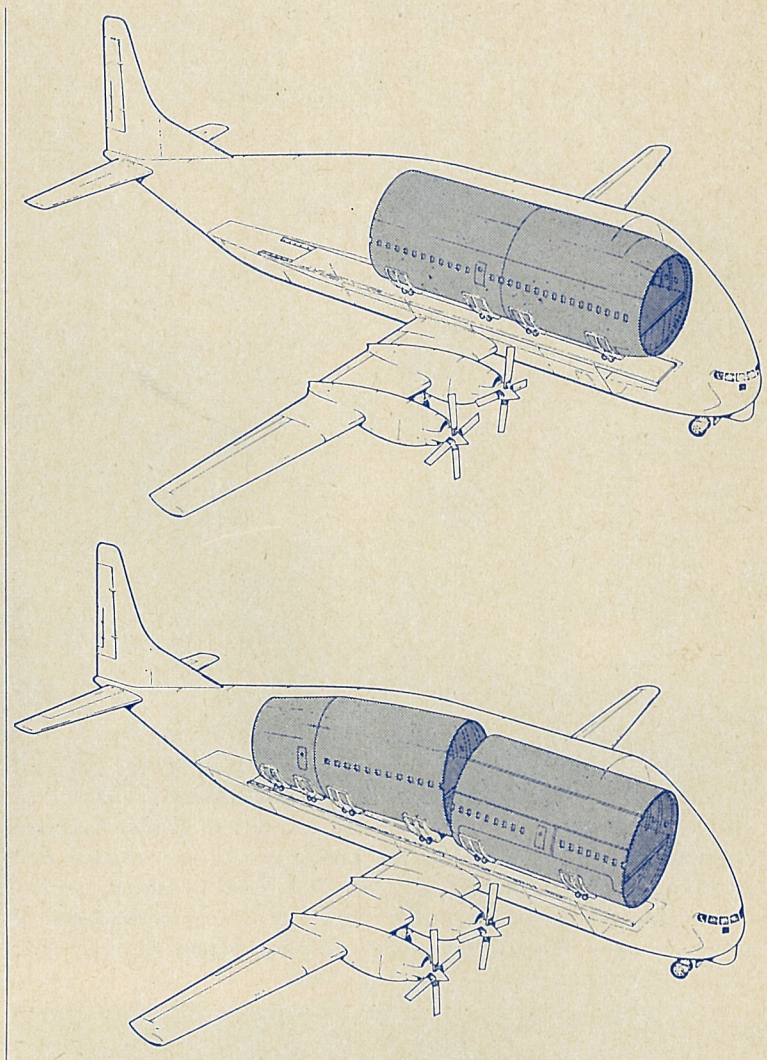
Star II was used recently to free an entanglement of guide wires, hoses, and hydraulic lines which had become snarled around an oil well head in 550 feet of water. Last month, Star II retrieved a ten-ton section of drilling pipe in the same area.

Louis Fead piloted Star II. The submersible's cutter-equipped manipulator arm was operated by George Treen, president of International Divers Inc., a subsidiary of Divcon Inc. of Houston, Texas, which leased Star II to Pauley Petroleum Co. for the job.

Veterans of Vultee Will Meet Oct. 6

Vultee Club will "come of age" this year with its 21st reunion, to be held Oct. 6 at Los Amigos Country Club in Downey, Calif., site of the old Vultee plant.

"Alumni" may receive information or make reservations through P.O. Box 4265, Whittier, Calif. 90605.



ALL ABOARD—Sketches indicate how DC-10 fuselage sections, built at Convair, San Diego, will be loaded aboard "Super Guppy" for hop to McDonnell Douglas' assembly facilities at Long Beach, Calif.

Automatic Phone System For Carrier Delivered

August was a significant milestone for Stromberg-Carlson.

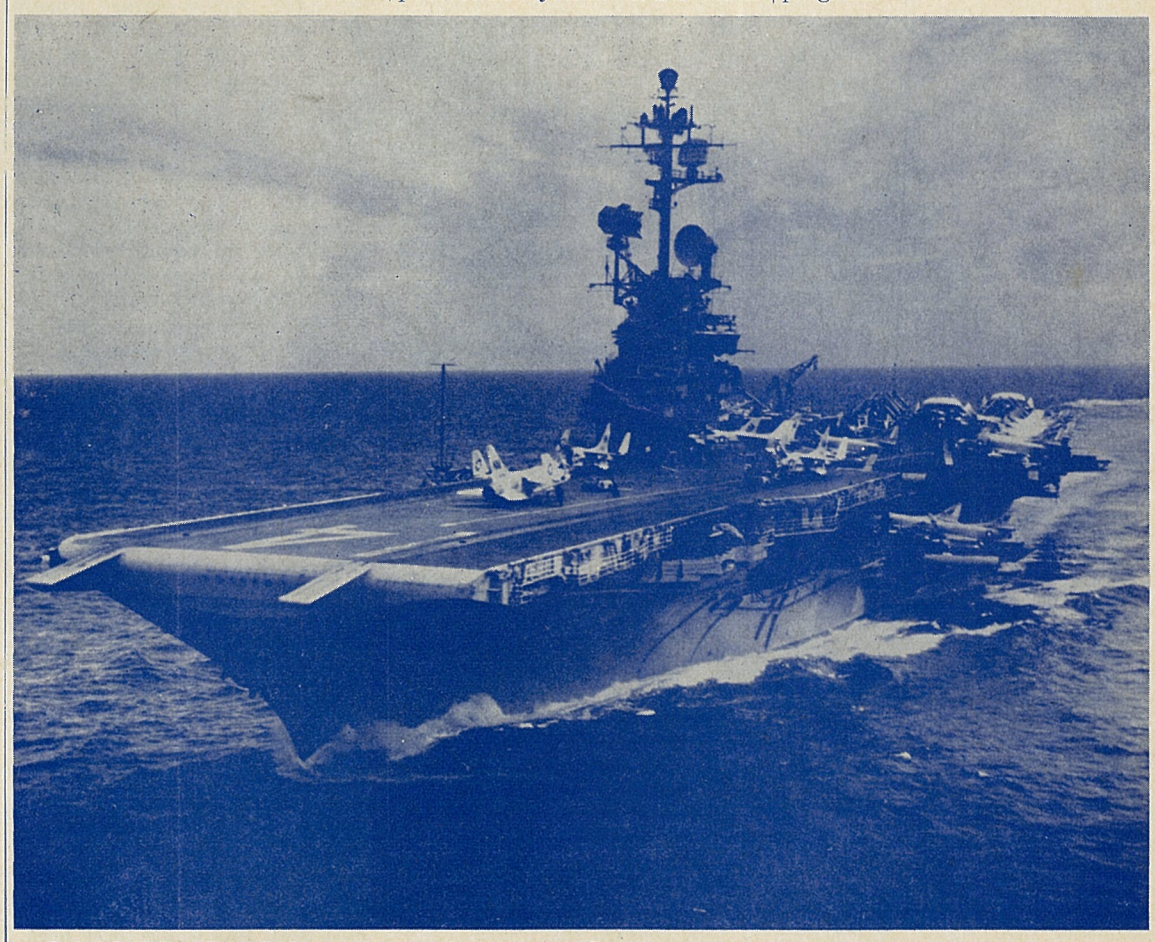
The first switchboard of the Marine DIALMASTER® MDM-200/700 automatic ships dial telephone system was delivered to the U. S. Navy. This first 500-line system will replace existing separate 100 and 300-line switchboards on the USS Ticonderoga.

The new system is 50 per cent smaller than other Navy-approved systems which permits larger capacities with a significant weight and space savings. It is an expanded version of the present MDM 100/15, and is available in capacities up to 700 prime lines with 100 per cent party service. Plug-in modules and XY switches are used throughout permitting line and link capacities to be increased with the simple addition of circuit modules.

The complete program required just one year from start of design to shipment of the first production system. G/I/I marketing in close liaison with COMNAVAIRPAC (Commander Naval Air Pacific Fleet) negotiated the contract on Aug. 14 requiring a concerted team effort to accomplish a quick-reaction delivery within 16 calendar days.

The MDM 200/700 system further expands Stromberg-Carlson's line of marine telephone products. These equipments include the 40-line Marine DIAL-X system used aboard all nuclear submarines, the Navy-approved Type G telephone set and various sizes of Marine DIALMASTER® system. Coupled with the sound-powered products from Charlottesville, marine products provide a firm basis for Stromberg-Carlson's further entry into the marine communications market.

Vincent Renda, product manager, marine communication products, commended all involved in the project, noting that the very close cooperation of all concerned was one of the highlights of the program.

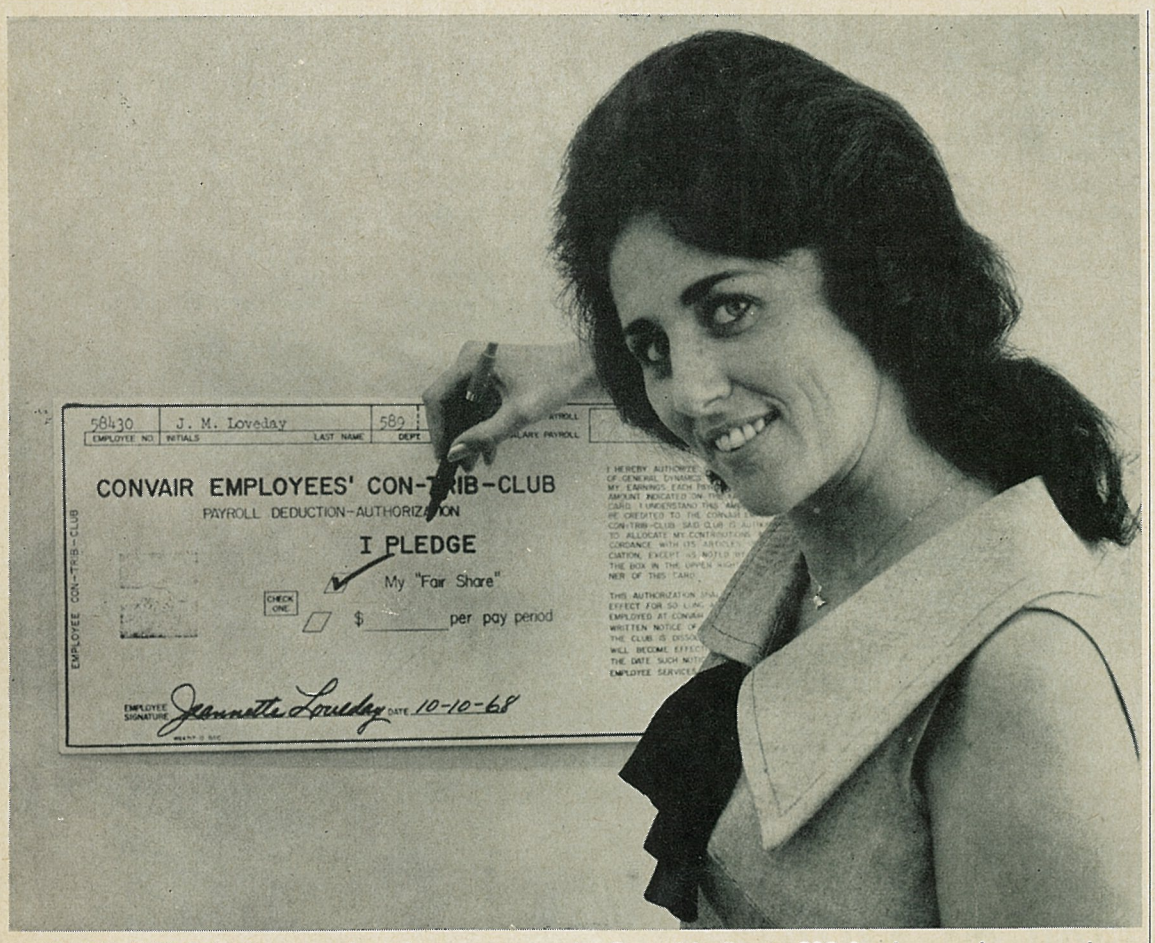


ON BOARD—First 500-line Marine DIALMASTER® system will replace two existing switchboards aboard USS Ticonderoga.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 20 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, September 25, 1968



"FAIR" PLEDGE—Jeanette Loveday, secretary in Convair's Dept. 589-0, shows where employes should check to pledge "Fair Share" in Con-Trib-Club campaign. Substantial increase in "Fair Share" giving is a campaign goal.

'Fair Share' Goal For Con-Trib-Club

Convair division's annual Employes' Con-Trib-Club membership campaign has been scheduled Oct. 10-25 with pledges totaling $550,000 and 95 per cent employe participation as goals. Emphasis will be on "Fair Share" giving.

The appeal is simple. Every employe is asked to pledge his "Fair Share" through small, systematic payroll deductions. "Fair Share" is the equivalent of four minutes pay per day or 8/10 of 1 per cent of salary.

Jack L. Bowers, Convair division general manager, who will serve as campaign chairman, said a substantial increase in "Fair Share" giving by employes will be necessary to meet the increased goal and provide needed support for community health, welfare and youth agencies in San Diego County and other areas across the country where Convair employes live and work.

"Each of us, as employes of the largest industrial firm in the San Diego area, and as good citizens, must consider our obligation to the community," Bowers said.

"Our Convair Employes' Con-Trib-Club offers an easy and systematic means for meeting this obligation by giving our 'share' to support all approved charities."

Bowers said the "Fair Share" method enables each employe to contribute an equitable amount based on his earnings, permits automatic modification of the donation if earnings change and eliminates the need for the individual to renew his Con-Trib-Club membership each year.

Employes not now giving their "Fair Share" will receive Con-Trib-Club authorization cards from their supervisors during the upcoming campaign. Brochures describing the Con-Trib-Club also will be distributed.

Each division staff member is appointing a campaign coordinator for his department. Del Dimmitt, division fire chief, will be overall campaign coordinator.

The Con-Trib-Club campaign this year will be running concurrently with the county-wide United Community Services (UCS) appeal.

Convair employes, through the Con-Trib-Club, last year contributed $300,000 to UCS for support of its more than 70 member agencies. Scores of other deserving community agencies received grants for operating expenses or for specific equipment, programs or facilities construction.

In addition, 190 Convair employe families received $59,787 in grants from the Con-Trib-Club emergency aid fund to assist them through unexpected catastrophic emergencies. Ten per cent of the club's total income is set aside for such employe assistance.

Since 1952, the Con-Trib-Club has distributed grants totaling $7,829,952 to health, welfare and youth agencies. Included was $4,896,693 to "united fund" organizations in the areas where division employes are located, $1,172,393 to health and health-related agencies, $1,002,160 to other organizations and $758,706 to employes and their families as "emergency aid."

A 14-member employe committee, appointed jointly by management and employe-representative labor organizations, administers the Con-Trib-Club and investigates all requests for grants.

Each employe pledging "Fair Share" during next month's campaign will receive a gold "check" pin that may be worn to signify such participation.

Allgire and Schmiedel Named To Indust. Relations Positions

Employe services function of Convair division's industrial relations department has been reorganized with George L. Schmiedel promoted to supervisor of recreation (Dept. 131-7) and Paul R. Allgire to supervisor of employe benefits (Dept. 130-5).

Schmiedel reports to M. V. Wisdom, director of industrial relations, and will have responsibility for Convair Recreation Association activities and vending and food services.

Allgire reports to Roger W. Brown, manager of compensation, and will be responsible for the division's group insurance, savings and stock investment and retirement plans, Convair Employes' Con-Trib-Club and related activities.

He replaces Charles G. Schutz,

(Continued on Page 4)

Nineteen Depts. Achieve Goals In Improvement

Nineteen Convair division departments are being presented "Sustained Performance" award plaques for meeting or exceeding improvement goals by reducing defects in workmanship during the first six months this year in the division's Craftsmanship program.

Each of the participating departments established improvement goals for the six-month period based on its performance record for the first 10 months of 1967.

Following is a listing of the award winning departments with information on their performance and goals:

Dept. 001—sheet metal, LF; reduced defects to 28.8 per 1,000 manhours; goal of 39.5 exceeded by 27.1 per cent.

Dept. 002—processing and welding, LF; reduced defects to 26.9 per 1,000 manhours; exceeded goal of 37.9 by 29 per cent.

Dept. 015—machine shop, LF; reduced defects to 22.6 per 1,000 manhours; exceeded goal of 27 by 16.3 per cent.

Dept. 016—electric bench, LF; reduced defects to 5.2 per 1,000 manhours; exceeding goal of 5.3 by 1.9 per cent.

Dept. 019—metalbond and plastic trim, LF; reduced defects to 11.9 per 1,000 manhours; exceeding goal of 19.7 by 39.6 per cent.

Dept. 031 — experimental, LF; reduced defects to .3 per 1,000 manhours; exceeded goal of .8 by 62.5 per cent.

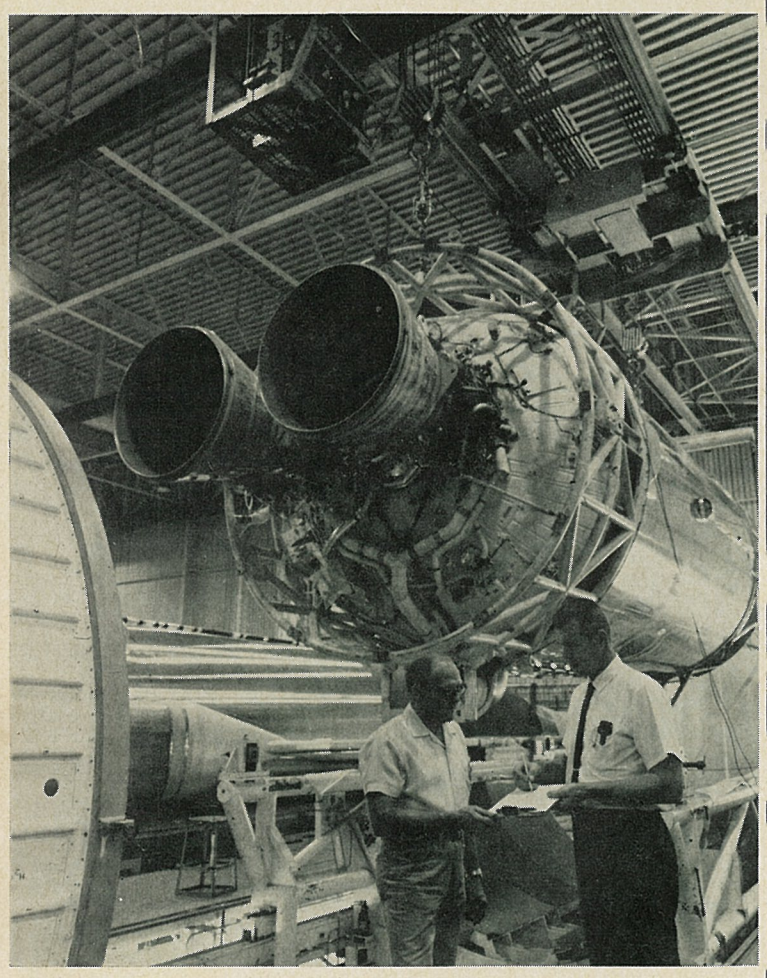
Dept. 045—C-5 empennage assembly, LF; reduced defects to 12.4 per 1,000 manhours; exceeding goal of 18.8 by 33.3 per cent.

Dept. 049—non-current spares, LF; reduced defects to 2.6 per 1,000 manhours; exceeding goal of 6.8 by 61.8 per cent.

Dept. 401—tool manufacturing, LF; reduced defects to 17.2 per 1,000 manhours; exceeding goal of 19.0 by 9.5 per cent.

Dept. 420—planning audit, KM; reduced discrepancies per 100

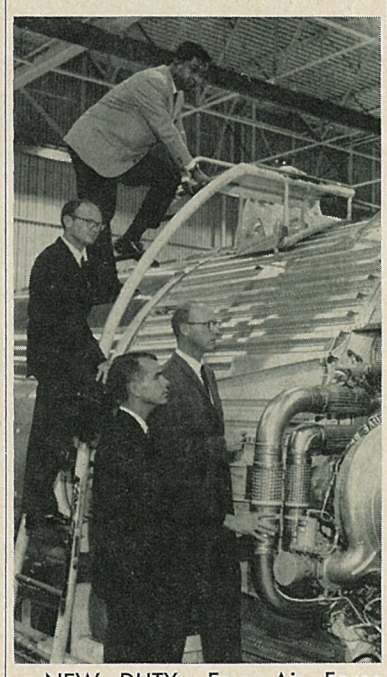
(Continued on Page 2)



WEIGH-IN—Centaur upper-stage vehicle for Atlas-Centaur 19 Mariner Mars mission tipped electronic scales at 3,597 (flight weight) pounds during recent weigh-in at Kearny Mesa factory. Conferring in foreground are Jack Oliver, left, Dept. 761-0 leadman, and Gerald M. Huston, Dept. 986-5 senior mass properties engineer. Centaur pictured was scheduled for shipping by air this week to Cape Kennedy.

Four AF Officers Report For Convair 'Education'

Four U.S. Air Force officers began a 10-month tour of duty with Convair division this month under the Air Force Institute of Technology-sponsored "Education with Industry" program.



NEW DUTY—Four Air Force officers beginning 10-month "Education with Industry" training program at Convair look over Atlas SLV-3A No. 5203 during plant tour. From left: Maj. Gerald Kline and Maj. Clarence Thompson (on ladder), Capt. William Lounsbury Jr. and Maj. Chester Holland.

They are Maj. Gerald D. Kline, Maj. Clarence G. Thompson, Maj. Chester A. Holland and Capt. William E. Lounsbury Jr. This will be the 12th consecutive year during which the division participated in the program.

The four officers have received a general orientation and familiarization with Convair. This will be followed by 12 weeks of training with various departments on a rotational basis and about 20 weeks of "on-the-job" assignments.

Maj. Kline has been a missile combat crew commander at Davis-Monthan AFB, Ariz., since 1963, and previously received Titan II training at Sheppard AFB, Tex., and Vandenberg AFB, Calif.

As a C-124 navigator from 1958 to 1961, he flew a wide variety of missions ranging from "Operation Deep Freeze" in the Antarctic, resupply of facilities in Northern Greenland and "ice islands in the Arctic, to aid for earthquake victims in Chile.

Kline received his BA in geography from UCLA and his master's in business administration from the University of Arizona in 1966.

Maj. Thompson has been instructor for an avionics staff officers school at Lowry AFB,

(Continued on Page 2)





ON WAY UP—"Sustained performance" awards were presented to Convair departments recently for improved quality during first half of 1968. Typical of groups receiving recognition were, left photo, Lyle A. Wood accepting award from General Manager Jack L. Bowers on behalf of members of procurement document review, Dept. 840; and, right photo, Gerald E. Nuss receiving award for planning audit, Dept. 420.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Sept. 16 and Sept. 30.

Thirty-year: Dept. 250, J. L. Petit; 756, H. H. Ulmen.

Twenty-five-year: Dept. 059, M. C. Walter; 250, N. E. Lara; 531, W. H. Paine; 840, Ada M. Shipman; 860, J. E. May; 985, E. M. Van Huss.

Twenty-year: Dept. 001, J. W. Weisman; 016, M. E. Krogfus; 019, G. H. Parker; 031, A. G. Helbig; 059, Laura P. Rose; 141, W. F. Hageman; 400, L. E. Freeman; 533, T. A. Parker Jr.; 761, H. E. Collins.

Fifteen-year: Dept. 057, W. W. Eddington; 130, W. D. Galbreath; 400, F. J. Lindahl; 401, R. T. Lewis; 420, T. B. Thompson; 511, G. T. Woods Jr.; 515, F. A. Reed; 517, J. W. Davis, B. Hom; 533, B. E. Parker; 544, R. C. Zuranski; 756, E. C. DeWitt; 763, W. H. Weatherby; 780, J. M. Faulkner, C. J. Johnson; 832, L. P. Waislow; 833, C. C. Nash, J. W. Taylor; 840, Virginia J. Barber.

Ten-year: Dept. 027, Dolores B. Lakey; 059, J. T. Fort; 146, J. E. Ross; 191, Katherine M. Stockett; 193, Helen B. Sievers; 202, B. D. Josephson; 250, C. Bolton; 400, R. G. Bowen; 401, F. M. Markussen; 518, Dorothy C. Flint, Loretta J. Hale; 566, D. E. Henning; 507, Adeline M. Hall; 574, B. O. Coleman; 731, E. M. Blumenthal; 802, F. J. Rose; 832, Justina S. Hardwick; 843, Beatrice R. Hale; 950, Elizabeth A. DeVoe; 953, J. F. Kelly, R. N. King; 966, H. G. Greiner; 979, R. H. Mack, J. C. Sims; 999, Ola Brevig.

ELECTRONICS

Twenty-year: Dept. 921, Dorothy H. Maxfield.

Fifteen-year: Dept. 105, Irene L. Duzyk; 423, Ethel F. Sparacio.

Ten-year: Dept. 615, I. A. Holthus.

Awards

CONVAIR

Employee Suggestion awards approved for the week ending Sept. 6.

Dept. 002, D. Barnes, $52,50; 144, W. H. Behrens, $36.30; 250, J. W. Betts, $21.00; 780, R. R. Brown, $16.30; 142, R. E. Contell, $185.80; 733, T. L. Duenez Jr., $30.00 (two awards); 001, C. H. Fasching, $15.90; 454, R. A. Golem, $15.00; 027, H. A. Gonzalez, $23.10; 300, A. M. Goodwin, $42.80 (two awards); 142, A. Gregori, $15.00; 045, C. O. Holba, I. D. Howarter, $7.50 each (joint award); 149, O. J. Johnson, $15.00; 143, J. J. Murphy, $32.70; 149, C. A. McKinney, $177.90 (three awards); 027, W. R. Piercy, W. L. Worthington, $20.20 each (joint award); 027, A. F. Polus, $15.00; 142, L. L. Posey, $15.00; 780, B. A. Poulin, $15.00; 142, W. J. Steffen, $15.00; 250, P. Stoops, $15.00; 250, W. T. Toon, $15.00; 027, F. L. Wilson, $125.60.

Employee Suggestion awards approved for the week ending Sept. 13.

Dept. 143, A. C. Bailor, $23.30; 144, E. J. Bishop, $34.60; 143, A. M. Contreras, $20.50; 149, L. H. Cooke, $17.80; 027, A. I. Cox, $99.90; 143, J. Doyle, $15.00; 027, R. J. Gearhart, $15.00; 027, C. Hagata, $15.00; 985, H. R. Holeman, $665.60; 027, R. H. Jensen, $30.00; 142, L. E. Johnson, $32.50; 027, F. H. Kleckner, $141.10; 831, G. Lewis, $36,60 (two awards); 454, G. W. Lyst, $15.10; 015, A. Reiter, $41.40; 780, J. E. Sandiford Jr., $15.00.

Rider-Driver

CONVAIR

RIDE WANTED—From 42nd and Thorn St. to Kearny Mesa plant, 7 a.m. to 3:30 p.m. shift. Phone Harold Gould at 284-4832.

RIDERS WANTED—From Lemon Grove, San Altos to Lindbergh Field plant, 8 a.m. to 4:45 p.m. shift. Call Tasso Proppe, ext. 514 or (home) 463-1570.

RIDE WANTED—From 34th and Adams to Kearny Mesa plant, 7:30 a.m. to 4 p.m. shift. Phone Mary Harrison, ext. 2121 KM or (home) 284-4132.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Monday Sept. 30 and Oct. 7, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 14 auditorium, Tuesday, Oct. 8, 8 a.m. for first shift; today Sept. 25, 4:30 p.m. for second shift.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF-STUDY—A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Personals

CONVAIR

I wish to thank all my Convair, DCASPRO and NASA friends for their thoughtfulness and kindness during my hospitalization and convalesence. The cards, visits and telephone calls really kept my spirits up.

Fran Stoltz, Visitor office
Dept. 130-1

* * *

We wish to express our appreciation and thanks to our Convair friends for their kindness at the passing of our sister, Alice E. Hamill.

Hugh Hamill
Mrs. Grace H. Van Norman
Mrs. Pauline De Vol Rea

* * *

A hearty thanks to all my friends and co-workers for the party, gifts and many good wishes for an enjoyable retirement. I shall certainly miss all of you more than you know.

Pearl B. Craigmyle
Dept. 967-9

* * *

I wish to thank my late husband's many friends at Convair for the flowers and many kind expressions of sympathy received upon his passing.

Mrs. Marshall Hall and family.

ELECTRONICS

We wish to thank our many friends of Electronics-SD for the flowers and many kind expressions of sympathy received upon the death of our wife and mother, Ethyl.

Fred Klukas and children.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N. Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.



SUSTAINER—James C. Duffy accepts certificate on behalf of members of tool manufacturing, Dept. 401, at LF, recognizing sustained performance.

Four AF Officers Report For Convair 'Education'

(Continued from Page 1)

Colo. since 1966. He studied armament electronics at Lowry in 1958-59 and was with F-102 and F-101B squadrons for six years, serving as avionics officer at Ethan Allen AFB, Vt., missile maintenance officer at Goose AFB, Labrador, avionics inspector for the 32nd Air Division in Oklahoma City, Okla., and avionics supervisor at Dow AFB, Maine. He holds his BA degree in education from the University of Akron.

Maj. Holland comes to Convair from Bangkok, Thailand, area procurement office where he served as chief of the procurement division which serves Don Muang RTAB and handles purchase requests for Air Force units in Thailand and South Viet Nam.

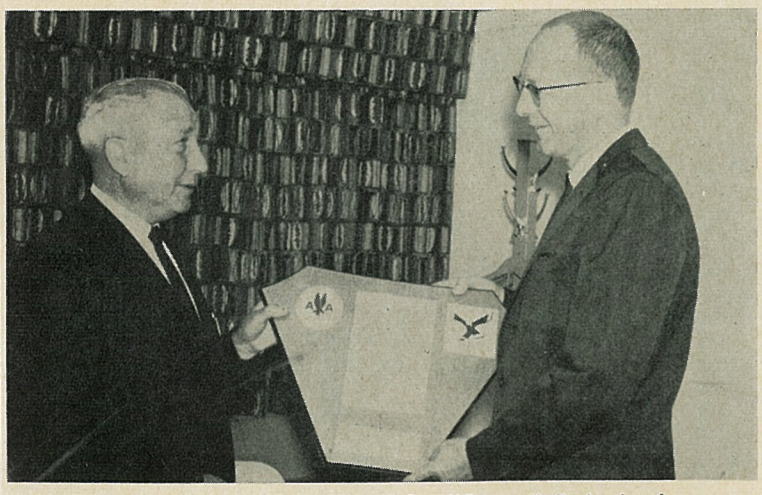
He was commissioned in 1954, attended procurement school at Warren AFB, Wyo., and had base procurement officer assignments at Chanute AFB, Ill., Etain AFB, France, and Craig AFB, Ala. He attended the Air Command and Staff College at Maxwell AFB, Ala. and is a graduate of the University of Iowa.

Capt. Lounsbury, a former Convair division man, has been a Minuteman ICBM combat crew commander and deputy commander at Whiteman AFB, Mo., since 1963.

He entered the Air Force in 1961 and has had previous assignments with Bomarc missile units at Eglin AFB, Fla. and attended transportation officers school at Sheppard AFB, Tex., is a graduate of San Diego State College, where he majored in math and engineering, and received a master's in business administration in June from the University of Missouri.

He was a drill press operator for Convair during the summer of 1956. His father, W. E. Lounsbury Sr., was a tooling engineer with the division for about 15 years.

Curtis McKee, Dept. 130-0, is Convair division coordinator for "Education with Industry."



WITH AFFECTION—Convair's John "Scotty" Doig is shown receiving American Airlines "Citation For Service" award from M. F. Curtin, AA director of inventory control.

Unprecedented

American Airlines Fetes Doig For Many Years of Service

John "Scotty" Doig, Convair manager of support contracts, has received his share of honors over the years, but last month's testimonial banquet at Tulsa, Okla. was strictly one of a kind.

American Airlines was the host and as J. V. Dooley, AA vice president purchasing, communications & services, put it, the tribute was "unprecedented." Honoring a man for exceptional service to American is not unusual, but when he works for another company, then it is something else again! Dooley said.

Attending were most of AA management men "who have witnessed and appreciated the efforts of Scotty and his staff . . . from the early days of the 240 through the 990."

Doig is known as "Mr. Convair" in the purchasing and supply fraternity of the air transport industry and AA left no praise withheld in recalling the long association and "cooperative response to airline parts requirements, consistently maintained" by the support contracts group.

M. F. Curtin, AA director inventory control, and H. J. Fox, director purchasing, collaborated in presenting a framed "American Airlines Service Award" and an unusual timepiece affectionately inscribed: "John 'Scotty' Doig, A Man For All Seasons."

CONVAIR MGT. CLUB PLANS RACE NIGHT

Convair Management Club is planning a "Night at the Greyhound Races" Oct. 26 at Caliente in Tijuana.

Tickets will be $3.50 per person —a 75-cent saving—and will be available via boosters through Oct. 23.

Cocktails will be served from 7 to 7:30 p.m. in the Caliente clubhouse. Dinner will be at 7:30.

The first greyhound race will begin at 8 p.m. Mike Alianelli is event chairman.

Attire will include coats and ties for men. Women will not be admitted in slacks.

Nineteen Depts. Achieve Goals

(Continued from Page 1)

pages of "planning paper" to 1.8; exceeding goal of 2.4 by 25 per cent.

Dept. 733—processing and tubing, KM; reduced defects to 6.7 per 1,000 manhours; exceeding goal of 18.5 by 63.8 per cent.

Dept. 759—fusion welding, KM; reduced defects to 2.7 per 1,000 manhours; exceeding goal of 3.1 by 12.9 per cent.

Dept. 761—Atlas and Centaur final assembly, KM; reduced defects to 13.8 per 1,000 manhours; exceeding goal of 19.7 by 29.9 per cent.

Dept. 780-2—research and development electronics, KM; reduced defects to 5.9 per 1,000 manhours; exceeding goal of 13 by 54.6 per cent.

Dept. 780-5—electronic harness manufacturing, KM; reduced defects to 9.3 per 1,000 manhours; exceeded goal of 19.9 by 53.3 per cent.

Dept. 833-2—shipping, staging and traffic, LF; reduced defects to 8.7 per 1,000 manhours; exceeded goal of 11.5 by 24.3 per cent.

Dept. 836—first cut, LF; reduced defects to 2.2 per 1,000 manhours; exceeded goal of 8.2 by 73.2 per cent.

Dept. 840 — procurement document review, KM; reduced rejection rate of procurement documents to 3.9; exceeded goal of 4.

Dept. 985 — Vandenberg AFB operations; reduced defects to .29 per 1,000 manhours; exceeded goal of .42 by 31 per cent.

Electronics-SD Plans JA Unit

Electronics-SD Management Club will sponsor a Junior Achievement group this year.

Junior Achievers actually operate a small scale corporation, elect their own officers and directors and select their product or service. The company sells "stock", declares "dividends" (if a profit is shown) and ultimately liquidates and redeems "stock."

Larry Butler, club JA coordinator, said the company, as yet unnamed, will be limited to 18 members. All will be Electronics sons and daughters, 10th through 12th grades.

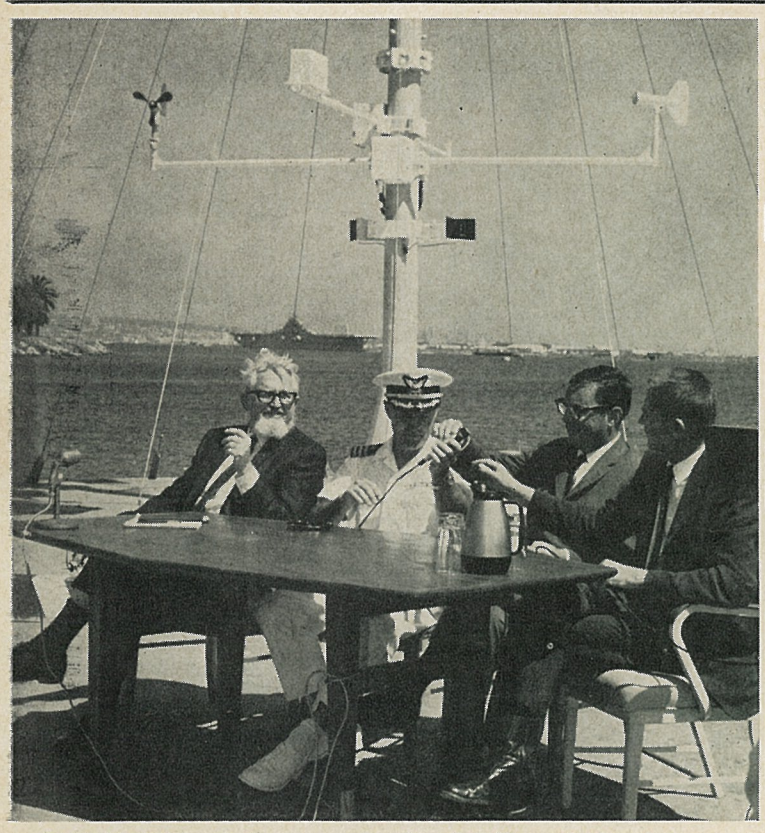
Advisers and areas of responsibility include: Frank Burke, Mike Templeton, sales; Don Hill, Joe Blackwood, products; Jack Wise, John Marocco, business; Don Worley, Cal Franklin, inspection.

E. R. Peters, Electronics manager of material, is a member of the San Diego area board of directors for Junior Achievement.

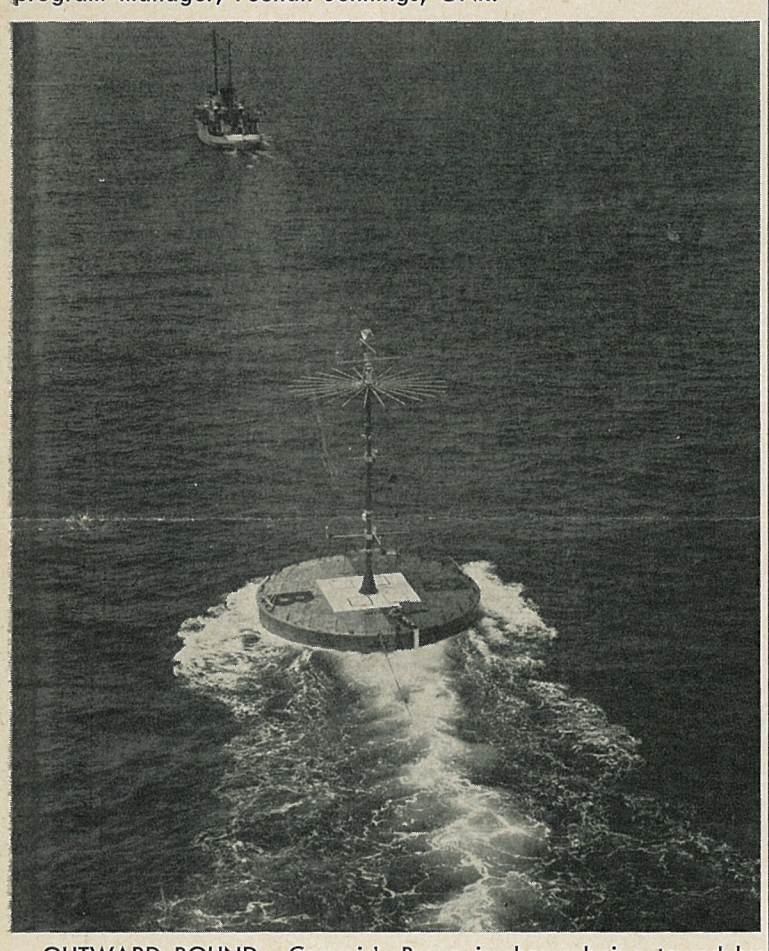
Convair Daughter To Study Abroad

Cris Ellen Bibb, 20-year-old daughter of C. W. Bibb, senior design engineer, Dept. 533-1, will attend Trinity College in Dublin, Ireland in the Students Abroad program.

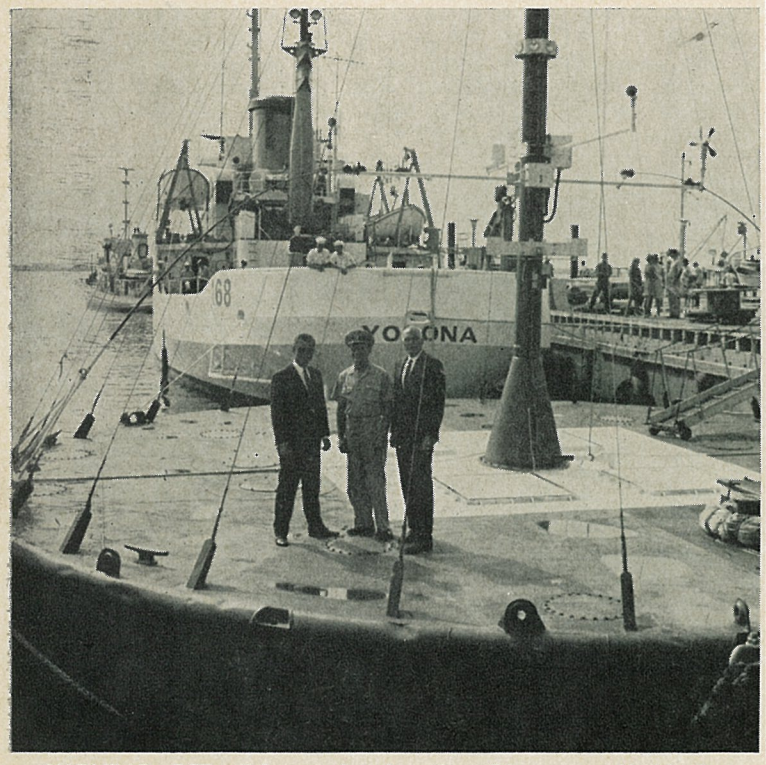
Chris Ellen attended University of California at San Diego her freshman and sophomore years. She plans a law career.



DISCUSSION—Going over details of Office of Naval Research plans to use Convair and Scripps buoys to monitor weather and ocean data in North Pacific are, from left: John D. Isaacs, professor of oceanography; Cdr. Arthur Morrison, USCG, commander of cutter Acushnet; Robert Devereux, Convair ocean data systems program manager; Feenan Jennings, ONR.



OUTWARD BOUND—Convair's Bravo is shown being towed by Coast Guard Cutter Yocona en route to North Pacific stations. Monster buoy weighs 100 tons and is 40 feet across. Once on station Bravo will transmit data to Convair's mobile data center located at the Scripps facilities in La Jolla, Calif.



SHOVING OFF—Prior to leaving San Diego are K. N. Jones, Bravo crew chief; Cdr. W. M. Barney, skipper of CGC Yocona; Ken Samples, Convair buoy project manager. Buoy Alpha is scheduled to leave next month for its station. Both buoys will monitor wind velocity, rainfalls and air temperature and in addition will have below water experiments.

1965 Savings Plan Members Face Decision in November

Members of the General Dynamics Savings and Stock Investment Plan who participated during the Plan's first "year" of operation (October - December 1965) soon will have a choice of withdrawing funds credited to them during that period, without penalty.

Or, they may leave their 1965 account intact.

Subject to withdrawal are the member's own contributions as well as those of General Dynamics'; $1 for every $2 the individual saved.

Each member with a 1965 account will receive two cards prior to Nov. 1 of this year, a blue card and an orange card. One card or the other must be signed and returned to employe services before Nov. 30 at the latest.

The blue card is for those wishing current distribution of 1965 accounts. For these, a valuation will be made as of Dec. 31, 1968 by the Plan's trustee, Bankers Trust Co. of New York, and members will receive cash for their holdings in the government bond fund as well as the diversified portfolio, if this is part of their option.

If the member's option includes General Dynamics common stock, the member will receive stock certificates, with any fractions being paid in cash.

Bankers Trust anticipates a settlement date of mid-February.

Members who choose the blue card option are reminded that they will be subject to regular income tax upon the dollar difference between what they contributed and what they receive. (The difference will include the General Dynamics' contribution of $1 for every $2 the member saved.)

In the case of members who take the orange card route, their 1965 accounts will continue to be invested in the Plan and no distribution will be made. Their 1965 accounts will not again be subject to distribution, without penalty, until termination or retirement. Current interpretation of federal tax laws requires this provision.

"Your personal and family requirement are the determining factor in which choice you make," Algie A. Hendrix, General Dynamics' vice president, counseled.

"Perhaps you have a son or daughter in college and you need the distribution for educational expenses.

"However, if you have no such demands and are looking forward toward accumulating supplemental additions to retirement benefits and Social Security, then you might take a different view.

"During the next month or six weeks I suggest you weigh the matter carefully in the light of your personal situation."

Ocean Data Stations Assigned Role in North Pacific Project

Convair - manufactured ONR ocean data stations Alpha and Bravo are earmarked for a major role in the Office of Naval Research's North Pacific experiment, being conducted by Scripps Institution of Oceanography.

This was announced at Scripps Nimitz Marine Facility in San Diego during recent ceremonies involving principals in the experiment—Feenan Jennings, head of physical oceanography programs, ONR; John D. Isaacs, professor of oceanography at Scripps; Cdr. Arthur Morrison, commanding the U. S. Coast Guard cutter Acushnet; Robert Devereux, Convair ocean data systems manager.

The Convair ocean data stations, each 40 feet in diameter and weighing 100 tons, will be used to collect weather and oceanographic data in conjunction with eight "Bumblebee" buoys, 16-foot, catamaran-type developed by Scripps.

The buoys will be deployed over a 1,500-mile, East-West area in the North Pacific about 1,200 miles north of the Hawaiian Islands.

Convair's Alpha and Bravo will monitor wind velocity, rainfall, solar radiation, air temperature, dew point and barometric pressure at 5, 10 and 15 meters above sea level. Below-water sensors attached to the 17,550-foot synthetic fiber mooring lines will sample salinity and temperature at intervals to the 1,500-foot level.

Data collected will be transmitted once a day from the ocean data stations to Convair's mobile data center, stationed adjacent to the pier at Scripps' facilities in La Jolla, and will be recorded on magnetic tape for analysis.

In addition, selected data will be forwarded by teletype in near real-time to the Bureau of Commercial Fisheries, the U. S. Navy and the U. S. Weather Bureau.

The Scripps "Bumblebee" buoys, so named because of their shape, will record weather data and sea temperature on meters which will be photographed hourly by automatic cameras aboard the buoys.

According to Prof. Isaacs, principal investigator for the project, the study will enable scientists to better understand the nature of large-scale, non-seasonal changes of the surface temperature of the sea in the North Pacific and determine inter-relationship of these with the large-scale weather patterns of the Pacific.

Convair's Bravo was deployed to its station in the North Pacific by the Coast Guard cutter Yocona in August and has transmitted data to Convair's mobile data center.

The cutter Acushnet left Sept. 12 with the "Bumblebee" buoys and will return about the end of October for ocean data station Alpha.

The Acushnet has been assigned to the North Pacific experiment for the duration of this phase of the project, expected to last one year.

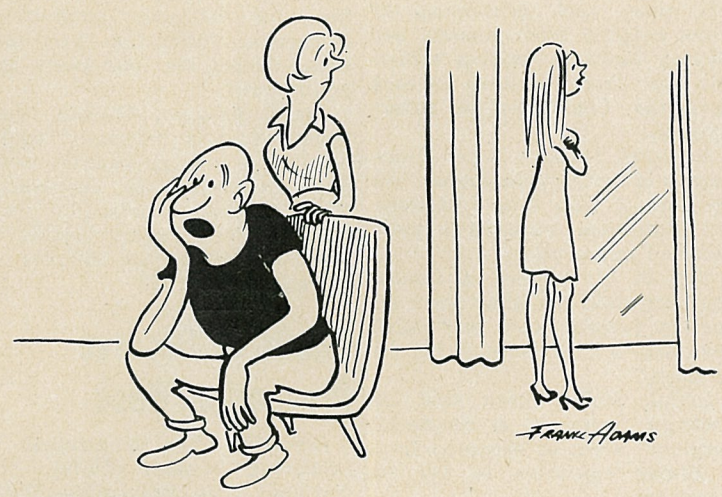
This'll Teach Him To Read Fine Print

When Ken Jones, Convair engineer and crew chief for Bravo ocean data station, "signed on" aboard CGC Yocona deploying Bravo in Pacific, he unwittingly agreed to more than he expected.

Nestled among the sheaf he signed was enlistment papers as a Coast Guard recruit!

Jones was at sea in more ways than one until he was sure it was just a gag.

After all, with U. S. Navy duty, Sept., 1941-Oct., 1945, behind him, this would have been "double jeopardy!"



"There's no communication . . . I can't explain a 'splashdown' and she can't describe a 'love-in' . . ."

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

CHARLES E. HARGRAVE (1960) from Stromberg-Carlson (Charlottesville) to Corporate Headquarters as manager, management development; **CHARLES G. SCHUTZ** (1961) from Convair division to personnel placement representative, Corporate Headquarters; **PAUL C. NELLI** (1950) from Convair to Fort Worth; **C. H. COLEMAN** (1960) from Electronics-SD to Quincy; **BERTHEL L. ROBERTS** (1958) from Convair to Electronics-SD as quality control specialist; **JOSEPH B. MUNRO** (1956) from Corporate Headquarters to Quincy; **HARRY NISBET** (1966) from Electronics, Rochester to industrial engineer, Convair; **R. H. THATCHER** (1951) from Pomona to staff specialist, Quincy; **CONRAD C. LINGENFELDER** (1952) from Electric Boat to Pomona as senior field service representative; **THOMAS J. DE LACY** (1966) from Electric Boat to senior research engineer, Convair; **DAVID L. ARRIS** (1959) from Convair to senior electronic engineer, Stromberg Datagraphics; **FRANCIS J. PARKINSON** (1953) from Electric Boat to Quincy as supervisor; **JOHN S. MEAD** (1951) from Quincy to advance program engineer, Electric Boat; **NORMAN H. ERNST** (1954) from Electronics-SD to Datagraphics as program planning analyst; **FRED E. ARNOLD** (1959) from Electronics, Rochester to Convair; **EDWARD J. WILEY** (1962) from Convair to Datagraphics as engineering drawings checker; **KENNETH F. MANCHAK** (1967) from Electric Boat to industrial engineer, Quincy; **WILLIAM E. LADD** from Electronics, Rochester to Convair as manufacturing engineer.



MILESTONE—Dale L. Brown of Convair's Dept. 780-3, left, receives journeyman certificate from Frank Kemper, electronics factory manager. Ceremony marked completion of 8,000 hours on-the-job apprenticeship training.

8,000 Hours of On-Job Training Prepares New Journeyman

Dale L. Brown, who recently completed 8,000 hours of on-the-job training in electronics in a Convair division apprenticeship program, was awarded his journeyman certificate in ceremonies Sept. 12 at the Kearny Mesa plant.

He has been assigned as a senior electronics development technician in Dept. 780-3.

Brown, a native of Missouri who joined Convair in March, 1964, and was selected for the apprenticeship program four months later, also completed requirements in June for his Associate in Science degree from San Diego Evening College after four years of evening classroom study.

Convair division has 31 employes now enrolled in the apprenticeship program, which is sponsored jointly by the division and the International Association of Machinists. It is administered by an eight-member Convair Joint Apprenticeship Committee.

Brown worked for an electrical contractor in Kansas and attended Grantham School of Electronics in Los Angeles before joining Convair.

He had rotating duty in a wide range of electronics production, inspection, calibration and test areas during his four years apprenticeship.

Frank Kemper, Convair electronics factory manager, spoke briefly at the graduation ceremony—stressing the importance of all employes continuing their education and urging Brown to work toward higher degrees in the electronics field.

Con-Trib Gifts Reach Troops In Viet Nam

Convair Con-Trib-Club has received more than 35 letters from servicemen in Viet Nam expressing appreciation for gift packages.

Con-Trib gave $2,000 to the local Viet Nam Gift Pac agency in July for purchase of 400 of the gift pacs, each containing 29 items ranging from peanuts and playing cards to writing materials, etc. Cards enclosed in each gave the Con-Trib-Club return address.

Several letters were from groups of military personnel. The six men of Gun 6 of I Battery, 3rd Battalion, included a color Polaroid group photo.

Sgt. J. W. Rogers, a combat engineer, said his gifts were especially helpful since he "hadn't been near a base camp or PX for 32 days."

L/Cpl. Bill O'Brien said his package "came as a wonderful surprise" when he returned from a 27-day operation in the Da Nang area.

"Each and every item is useful," he said. "It must have been an ex-Marine who figured out what to put in it."

Pfc Mike Christensen wrote: "It is people like you we're fighting for and when something like this happens it makes it a little more bearable."

Pfc Amos Quick put it another way: "It makes my day go by smoother knowing someone in the world . . . is thinking of us . . . ."

Two of the writers requested pen pals. They were Pfc A. W. Romain, A. Co., 1st Plt., 3rd Am Trac Bn., 1st Marine Div., FPO San Francisco 96602, and Pfc Dennis N. Caldwell, G Btry., 3rd Bn., 12th Marines, FPO San Francisco 96602.

Tour of Winery Planned by Wives

Convair Wives' Club members will be given a guided tour of the Ferrara Winery in Escondido Wednesday (Oct. 2).

The group will meet at 9:30 a.m. at CRA Clubhouse to form car pools.

Lunch at Escondido Square and a brief stop at Brookside Winery are scheduled.

Phone Mrs. Paul Brock, 583-1474, Mrs. Walter Dibblee Jr., 276-4845, or Mrs. Arnold Ramberg, 277-7603.

Plants to Observe Prevention Week

Convair's fire department is preparing in-plant displays for National Fire Prevention Week to remind employes of the need for continuous attention to eliminate fire hazards.

A fire extinguisher display will be set up at the No. 1 overpass at Lindbergh Field and "right way" and "wrong way" displays will be rotated between gates at plants.

Del Dimmitt, division fire chief, said Fire Prevention Week is a good time for all employes to check defenses against fire, both at work and in their homes, and to "make sure our personal habits are fire-safe ones."

Over 150 Enrolled In In-Plant Classes

A record enrollment for in-plant fall semester San Diego Evening College courses leading to the Certificate in Supervision has been reported by educational services.

More than 150 enrolled for the six courses which began last week—with some taking two or three courses. Number enrolled by course were Introduction to Supervision, 20; Human Relations-A, 25; Human Relations-B, 36; Industrial Economics, 38; Management and Organization, 22, and Production Planning, 28.

Successful completion of 10 courses is required for the certificate.

ALLGIRE, SCHMIEDEL NAMED TO POSTS IN INDUST. RELATIONS

(Continued from Page 1)

who had served briefly as supervisor of employe benefits and is joining Corporate Headquarters industrial relations staff in New York.

James K. Field, chief of employe services and supervisor of recreational activities and benefit programs for the division for more than 24 years, is on extended medical leave of absence.

Schmiedel, a graduate of the University of Akron, Ohio, has been CRA business manager since 1966 and is a director of the National Industrial Recreation Association.

He previously was employed as manager of general accounting for the Hughes Aircraft Co.,



P. R. Allgire



G. L. Schmiedel

Vacuum Tube Products division in Oceanside and as chief of general accounting for McKesson and Robbins, a pharmaceutical firm, in Canton, Ohio.

Allgire joined the former Astronautics division in 1960 as a cost control coordinator and cost control supervisor at an Atlas missile off-site base at Forbes AFB, Kan., and became an administrative accountant for the Atlas F-series update program the following year at Kearny Mesa.

He has served since 1963 as an administrative accountant and accounting coordinator for revenue management Dept. 196-0. He received his bachelor's degree in business administration from Kansas State University in 1951.

Mexico Air, Bus Tour Slated in November

Plans for a CRA-sponsored 15-day air and bus tour of Mexico will be discussed at 7:30 p.m. Oct. 2 in CRA Clubhouse TV lounge at Kearny Mesa.

The two-week tour, departing Nov. 16, will cost $345 per person and will include visits to Guadalajara, Tlaquepaque, Chapala, Mexico City, Xochimilco, Tepeyac, San Juan de Teotihuacan, Cuernavaca, Hacienda Vista Hermosa, Taxco and Acapulco.

Covered in the "package" will be first-class hotel accommodations, air transportation to Guadalajara, Mexico City and Acapulco; bus or limousine service to all tour points.

Los Angeles Office Plans Picnic Sept. 29

Convair division's Los Angeles office is sponsoring a fun day and picnic Sept. 29 for all General Dynamics employes in the Los Angeles area.

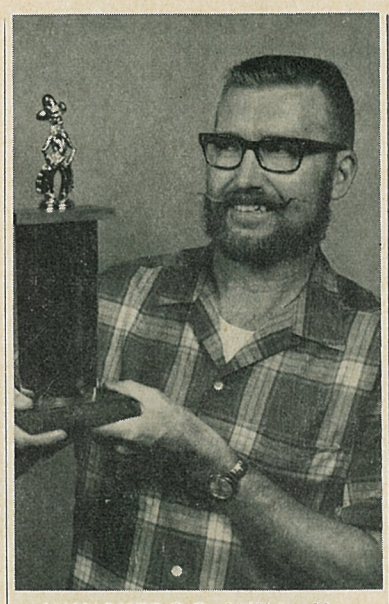
The 9 to 5 get-together at Torrance Park will be highlighted by a baseball game between Convair and Fort Worth employes. Horse shoes, basketball and ping-pong are scheduled. Games and prizes await children.

Barbecue pits are available and guests should bring their own food. Ice cream will be provided free for the children.

For information call Pat Harte at the Convair Los Angeles office, ext. 203.

Salvage Schedule

Next employes sales day at the Convair salvage yard, Lindbergh Field plant, will be Saturday, Oct. 12. Hours are from 8 a.m. until noon. Entrance is by badge. Children and pets are not allowed inside the yard.



WHISKEROO WIN—Harry Hermann, Convair Dept. 452-0 tool and die maker, displays trophy won for longest mustache (8½ inches) at Poway's "Pow Wow Days" celebration over Labor Day weekend. Beard, since shaved, was three month effort.

Vandenberg Earns New Safety Honor In Critical Period

Convair employes at Vandenberg AFB have received a special award for having been accident-free during Vandenberg's third annual "101 Critical Days" safety campaign.

The campaign, which began May 26 and ended Sept. 2, covered what safety officials consider one of the most critical periods for accidents— the interval encompassing Memorial Day, Independence Day and Labor Day.

Vehicle safety to reduce fatalities and injuries from motor vehicle accidents and safety precautions for water sports and other recreational activities was stressed.

Convair was one of eight contractor organizations which, along with 17 military units, qualified for the awards.

Electronics-SD Plays Successful Role in Minuteman Launch

Equipment designed and manufactured by Electronics-SD played a successful role in the first launch of Minuteman III ICBM from Cape Kennedy recently.

R. M. Templeton, Electronics-SD program manager for the Vandenberg/Arnold program, stated that the L-band tracking radar designed, manufactured and installed by Electronics-SD "provided accurate computer designation prior to other shipboard radars, and tracked the target of interest throughout re-entry to impact."

Also commended for "excellent operation" was Electronics-SD's Mistram transponder, used in telemetry aboard Minuteman III.

Drill Operator Collects $196 For Foil Idea

A Convair numerical control drill operator's idea for a new use for aluminum foil is speeding production and cutting costs in his work area in electronics manufacturing Dept. 780-1 at Kearny Mesa.

W. F. Strickland, the drill operator, conceived of the possibility of using regular heavy-duty kitchen aluminum foil as a "heat sink" to prevent melting of solder from solder-plated electronic circuit boards during multiple drilling operations.

He brought in a piece of aluminum foil from home and tests proved his idea practical—with no melting of solder occuring. Sam Hughes, his foreman, assisted with implementation of the idea.

Use of the aluminum foil instead of other circuit board material as a "heat sink" has tripled output of the S-2 numerical control drill—with nine boards now being drilled by the three drill heads during each "run."

The change in procedure and use of two rolls of aluminum foil per month is expected to save Convair $1,962 a year.

The idea paid off for Strickland, too. He's been presented a $196.20 Employe Suggestion award check.

Three to Serve United Crusade

Three General Dynamics men are serving for eight weeks as full-time "loan executives" with United Community Services of San Diego County to assist in the annual "United Crusade."

They are: Harry Shirley, a field service and training project engineer for Electronics-SD; W. E. Magnuson, chief of special projects in reliability control for Convair; Edward C. Generas, Convair division consultant.

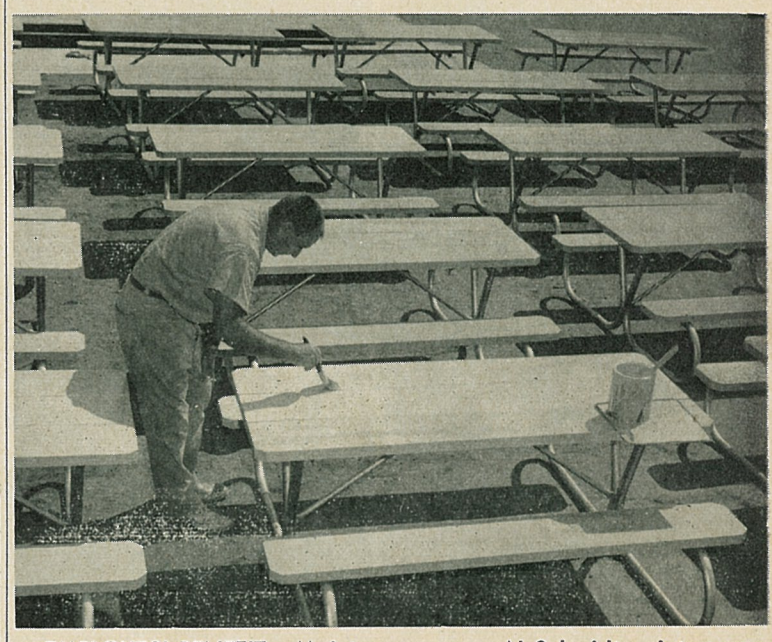
Each has been assigned to the "industrial, commercial and services" division and each will be working with executives and campaign chairmen in 35 to 50 business firms.

Goal for the crusade is $5½ million for support of community service agencies in the county.

The loan executives spent the first few days in their new assignments visiting UCS-supported agencies.

Shirley said employes would be giving much more to their Con-Trib clubs if they could see—as the loan executives did—how UCS funds are spent and the great need for additional support for many of the agencies.

The speech and hearing center at Children's Hospital, for example, has a waiting list of children and those now being assisted receive only about half as much therapy as needed.



EMPLOYES' BENEFIT—Maintenance man Al Schmidt paints group of lunch tables purchased by CRA for use by employes at Lindbergh Field and Air Force Plant 19. Tables were being assembled and painted by CRA employes at Missile Park before being moved to permanent sites.



ATLAS EXECUTIVES—Col. Hugh Wynne, new director of Atlas program office for Air Force Space and Missile Systems Organization, second from right, and members of staff look over Atlas flight summary during visit to Convair as Richard W. Keehn, right, Convair Atlas SLV program manager, points out milestones. Others, from left, are C. J. Dunn, Convair Atlas E/F program manager; Lt. Col. LeDewey E. Allen Jr., acting deputy director, Atlas program office; Lt. Col. Allen J. Poor, chief, engineering division, Atlas program office; Grant L. Hansen, Convair vice president-launch vehicle programs.



SAMSO HONOR—Convair team supporting Air Force Space and Missile Systems Organization (SAMSO) since 1965 at Norton AFB for Atlas D-E-F missile modification programs look over appreciation award recently presented for Brig. Gen. R. A. Duffy, SAMSO deputy for re-entry systems, by Lt. Col. L. E. Allen. From left are Rudy Romero, Bert Emerson, Don Sullivan, Mel Melaniphy, Burl Garret and Ben Wier, who headed team.

Letter Sparks It

Device Developed For Fixing Wheelchair Patients' Weight

A letter from a Convair division retiree to Roger Lewis, president of General Dynamics, has resulted in Convair life science personnel designing an adapter for weighing patients in wheelchairs.

Roy E. Vogel, the retiree, realized the need for a simple means for weighing non-ambulatory patients when his late wife, was confined to hospitals and nursing homes for 30 months.

Physicians estimated her weight had dropped from 199 to 75 pounds but were unable to determine her weight accurately because of her inability to stand. Weight of the patient is considered in determining medication.

Vogel's letter, asking that plans for attaching a wooden platform to scales be produced for distribution to hospitals, was referred to Dr. Robert C. Armstrong, manager of Convair's life sciences Dept. 592-0, for evaluation.

Dr. Armstrong and George Drake, chief of life support engineering, suggested improvements and a two-foot-square adapter resulted.

The device incorporates wheel "tracks" that are beveled at the end and are close enough to the floor to permit wheelchairs to be rolled on to them without danger of tipping.

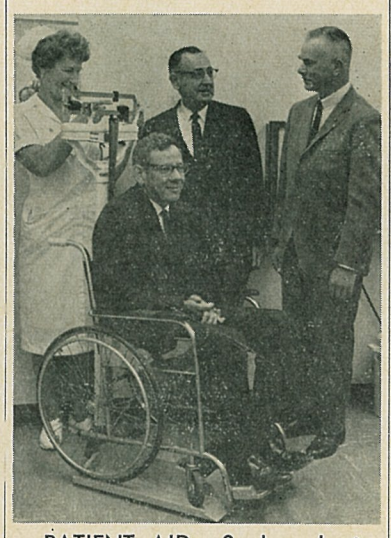
Patient weight is determined by subtracting wheelchair and adapter weight from the total scale reading.

The prototype is being used at the Casa Blanca Convalescent Home in San Diego.

Harold M. F. Behneman, M.D., medical director for the facility, said the device is of "great help to the attending physicians."

Through a special arrangement with Convair and its Employes' Con-Trib-Club, Sheltered Workshops of San Diego, a firm employing the handicapped, studied feasibility of producing the adapters from fiberglass for potential marketing. Con-Trib-Club this month allocated funds for tooling and test model production.

Sheltered Workshops officials already have one ready market for the devices. Their own employes who are confined to wheelchairs want to purchase first production units so they can weigh themselves at home!



PATIENT AID—Scale adapter for weighing of wheelchair patients is used as Convair nurse Scottie Payne checks weight of George Drake. Robert C. Armstrong, M.D., right, and Drake designed device at suggestion of Roy Vogel, retired Convair employe, standing center.

BIBLE STUDY GROUP MEETS

A lunch hour bible study group has been formed at the Lindbergh Field plant. The group meets in conference room 254, Bldg. 51 from 11:30 a.m. to 12:30.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is Oct. 1. Call ext. 1071 LF or 3322 KM. All meetings are held in CRA Clubhouse unless otherwise noted.)

★ ★ ★

ADVENTURERS—Mt. Whitney climb, Sept. 28-29.

BADMINTON—Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BICYCLE CLUB—Ride to Frontier Town, Sept. 28, 9 a.m.

BRIDGE—Duplicate bridge sessions each Friday, 7:30 p.m.

CAMERA CLUB—"Miss Photogenic" contest 1-4 p.m., Oct. 6, Missile Park.

CERAMICS—Meet each Tuesday and Thursday, 7-10 p.m.

CHESS—Play each Wednesday, 7 p.m.

CHORUS—Rehearsals 7:30 p.m. each Monday.

DELTA DIVERS—Regular meeting, Oct. 9, 7:30 p.m. Lobster dive and beach party, Oct. 5, Cardiff by-the-Sea.

FISHING CLUB—Beach party, Ventura Point in Mission Bay, Sept. 28. Regular meeting Tuesday, Oct. 15, Gillespie Field Clubhouse. Potluck 6:30 p.m.; meeting 7:30.

GOLF—Plant championship play continues, Sept. 28-29 at Cottonwood.

HI/FI—Meeting Oct. 8, 7:30 p.m.

ICE SKATING—GD family skate night Thursday, 6:15-7:45 p.m., Mission Valley Ice Arena.

MINIATURE RAILROAD—Operating sessions Saturdays, Sundays and holidays, CRA Missile Park.

MODEL HO RAILROAD—Work sessions each Tuesday, 7 p.m., CRA Missile Park.

PISTOL CLUB—Next shoot Oct. 13, 9:15 a.m., S.D. Police Pistol Range.

RADIO CLUB—Meeting Oct. 3, 7:30 p.m.

RIFLE CLUB—Seniors shoot second and fourth Wednesday, 7 p.m. Juniors shoot first and third Saturdays, 9 a.m., Gillespie Field Range.

ROCKHOUNDS—Meeting Oct. 9, 7:30 p.m.

SAILING CLUB—Meeting tonight (Sept. 25), 7:30 p.m.

SCULPTURE—Workshop sessions each Monday, 7-10 p.m.

SPORTS CAR CLUB—Meeting Oct. 9, 7:30 p.m., Convair executive dining room, Lindbergh Field.

SQUARE DANCE CLUB—Dance 8-10 p.m. each Thursday.

STAMP CLUB—Meeting Oct. 10, 7:30 p.m.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday 4:30 p.m.; Dynamic Toastmasters No. 457, Thursday 5:15 p.m.

WIVES CLUB—Tour of Ferrara Winery, Escondido, Oct. 2. Meet at CRA Clubhouse, 9:30 a.m.

WOMEN'S GOLF—Oct. 12 Tourney at Cottonwood Monte Vista course.

Divers' Abalone Record Tied

A CRA Delta Divers' record established by Jorge Zorilla in 1955 was tied Sept. 15 when Rod Johnson brought in five abalone in ten minutes.

The 13-year abalone race mark has been the target of competitors each season. Finishing only 30 seconds behind Johnson at the La Jolla dive was Loren Batchman. Third place went to Herb Boynton.

"Diver of the Year" competition continues to be close with Jim McGinnis leading with 41 points, Hal Reeser with 38 and Batchman with 34½.

The group's annual beach party Oct. 5 will coincide with the opening of the lobster season.

Convair Son Earns Medals in Shoot

David Farrelly Jr. of CRA Junior Rifleers took two second place medals in competition with the nation's top riflemen at the NRA championships Aug. 10-23 at Camp Perry, Ohio.

He previously had fired with the California team that won the National Junior Rifle Championship in Akron, Ohio.

Afternoon, Evening Fish Party Planned

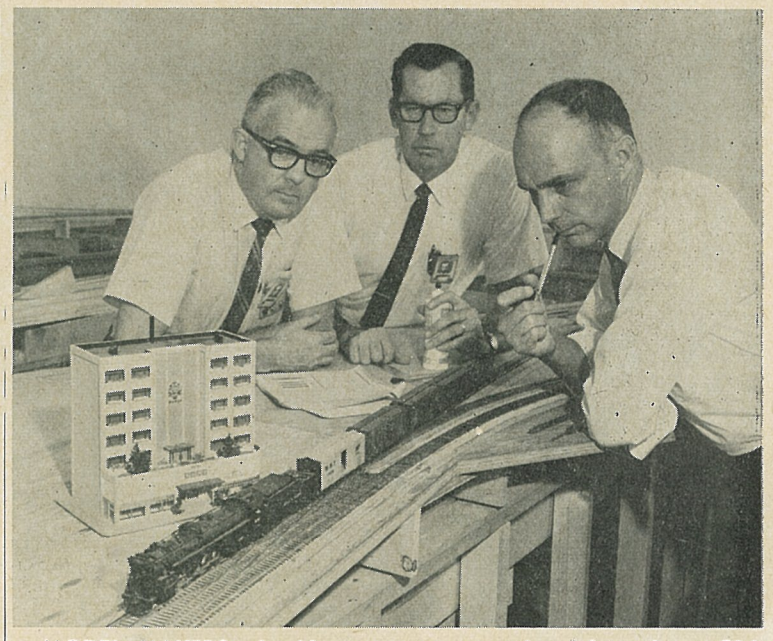
Fishing gear, lanterns, fire wood and swim wear will be in order when CRA Fishing Club meets for a beach party Saturday, Sept. 28.

Afternoon and evening fun will be at Ventura Point in Mission Bay.

Color Guard Rides In Poway Parade

The four-man CRA Riding Club color guard helped celebrate "Pow Wow Days" by riding in the annual Poway Parade.

David and Judy Watson, Conrad Nash and Mickey Donahoo were awarded a trophy.



MODEL MAKERS—Looking over new section of track at CRA HO-gage Model Railroad Club's facility at Missile Park are, from left, Willard Jones, Tom Buckley and Dave Fyffe (commissioner). Club members hope to complete first "main loop" of track next month.

Labor of Love

Ambitious HO-Scale Facility Under Way at Missile Park

Miniature railroad ties by the thousand are being dyed in household Rit and cemented into position on table-top roadbed sections at the CRA Model Railroad Club's new HO-scale facility in the Western Town area at Kearny Mesa's Missile Park.

Club members expect to have the fisrt complete main line loop of track completed next month at the new location, which some day will be fully landscaped with scale model scenery and is expected to be one of the finest facilities of its kind in the country.

Even the club's operations center—with its curved corners to eliminate shadows and 14 separate circuits for special lighting control—was especially designed for the club's scale model railroad activities. The building is shared jointly by CRA's miniature and model railroad clubs.

The HO-gage facility will have a 500-foot main line track and several branch line sections for switching and special use operations on three large tables joined together and covering a 90 x 20-foot area.

The tables have been constructed to leave a U-shaped aisle around the center section so operators can follow and control switching around the entire facility.

All "rolling stock" will be owned and operated by club members and all scenery and related improvements will be club property.

Freight yards, a passenger terminal, suburban areas, woodlands and two major terminals will be constructed. Six tunnels, a turntable, a special narrow-gage logging railroad and other innovations also are planned.

Members of the club meet at 7 p.m. Tuesdays for work sessions and have been working since Jan. 23 on the tables and main line track.

The roadbed is being cut from hemasote and the tiny basswood ties glued to the base along with light grey ballast sand. The metal rails are nailed to the ties with authentic "spikes."

Each of the rail "turn-outs" from the main line require from 2½ to 40 hours to construct, depending on complexity. All work is being performed to National Model Railroad Association standards.

Trains will travel around the main line, also at authentic scale speed, in about 20 minutes and the station clock will have its gear ratio stepped up 10 to 1 for authentic time simulation. Electronic coupling will be used in making up trains. Special lighting and use of luminous paint will permit simulation of star fields and sunrise and sunset conditions.

New members, including beginners at model railroading, are being sought by the club. Dave Fyffe, club commissioner, said opportunities for use of almost any artistic or technical talent are almost unlimited.

For information call Fyffe, ext. 2195 KM; Tom Buckley, ext. 1217 KM; Willard Jones, ext. 1321 KM.

"A model railroad is never finished," Jones commented. "That's one of the things that makes it a lot of fun."

O'Brien's 287 Wins In Master Class

Don O'Brien, with a perfect 100 in slow fire and overall 287 for the .22 caliber police course, led Master Class shooters in CRA Pistol Club's Sept. 8 shoot. Jim Halfacre fired a 280.

Harry Black had 284 in the same class but was disqualifed when his gun malfunctioned.

Expert Class produced the hottest action. Bill Dittman won with 262. On his heels were Ralph Picard, 261 and Dick Sutton, 260.

Short National Match winner was Ralph Schneider with 256.

Physical Fitness Classes Offered

Six evening physical fitness classes for men are being offered twice weekly at Kearny and Madison High Schools.

Each, designed for men 35 to 55, are being taught by city schools coaches.

Kearny classes begin at 5 and 6:30 p.m. Mondays and Wednesdays and Mondays and Thursdays and those at Madison at 5 and 6:30 p.m. Mondays and Thursdays.

Cost is $6 per semester. Call Clairemont Adult School, 274-3422.

Cyclists Will Pedal To Frontier Town

CRA cyclists will pedal to Frontier Town on Saturday (Sept. 28) after meeting at 9 a.m. at the Bank of America parking lot on Campo Road, Spring Valley.

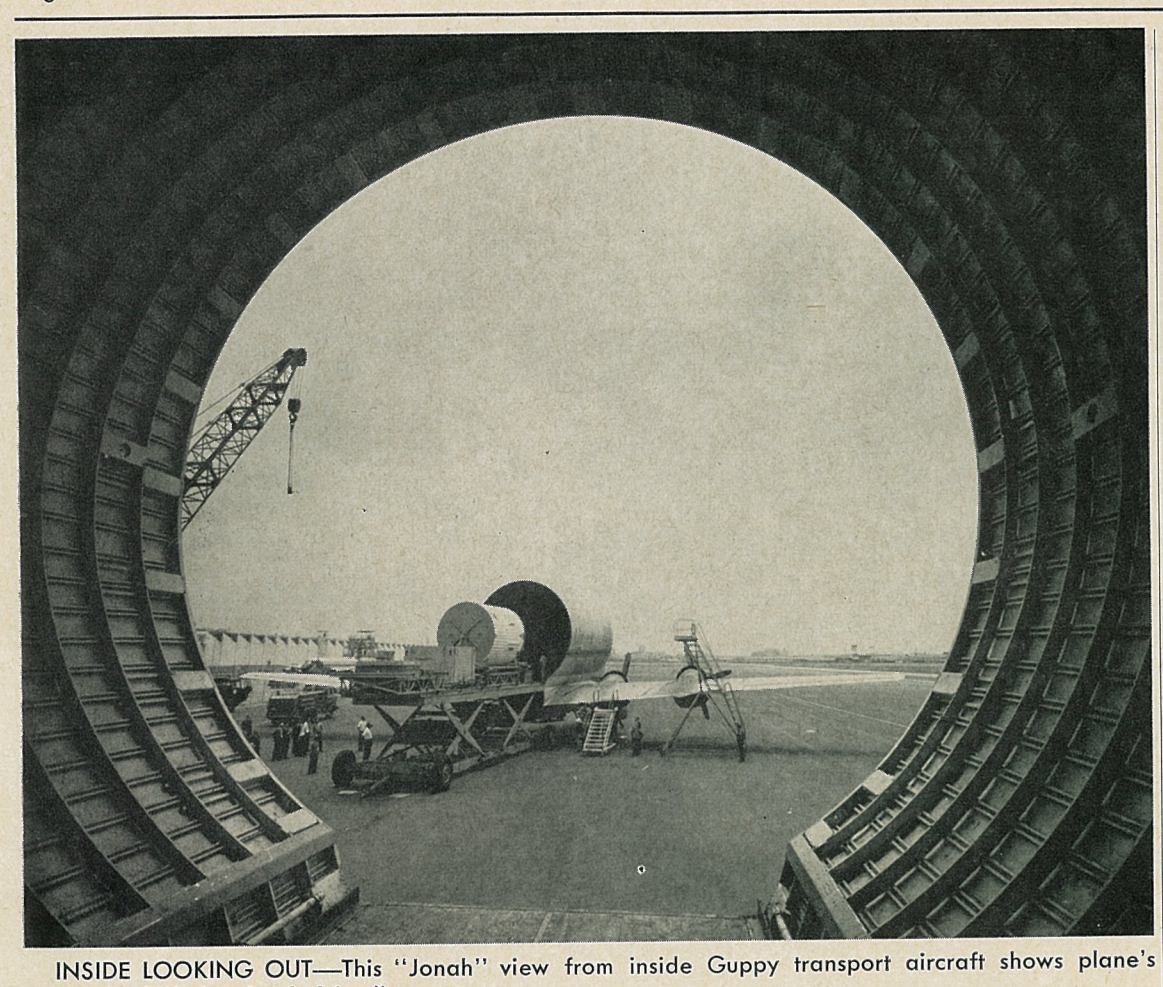
The 25-mile round-trip tour will be "ideal for new cyclists who wish to avoid steep hills and enjoy a scenic country ride."

Phone Bob Barkdoll, ride leader, ext. 3031 KM or (home) 469-5105.

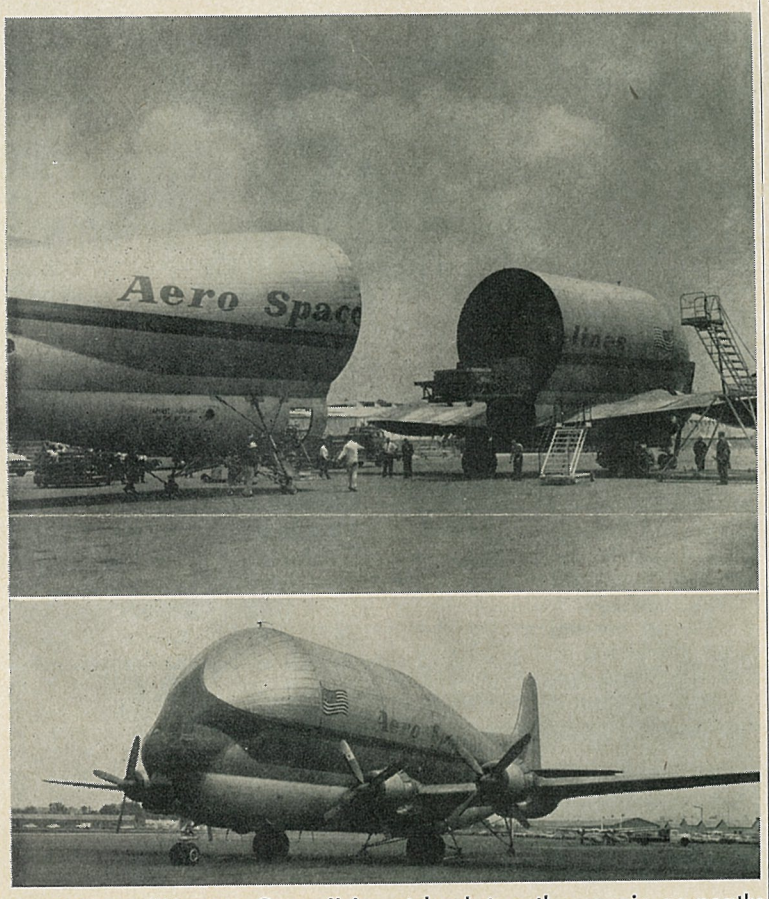
Agnes Sliger's 31 Wins Women's Golf

Agnes Sliger, with a low net 31, won first place in an "irons only" match at the GD Women's Golf Club Sept. 14 tourney. Runner-up award went to Nell Bartlett with 32 and Mabel Dunn finished third with 33 over the River Valley course.

The October match will be played over Cottonwood's Monte Vista course Oct. 12.



INSIDE LOOKING OUT—This "Jonah" view from inside Guppy transport aircraft shows plane's "other half" being loaded in distance.



MATED—"Humpty Guppy" is put back together again as neatly as in a magician's trick; and far more durably, too, as many a Centaur trip coast to coast can testify.

DC-10 Fuselage Sections Will Fly to Long Beach

Convair-built fuselage sections for the DC-10 Tri-Jetliner will fly long before the DC-10 makes its air debut.

Too big for transport by train or truck, the fuselage sections will fly from Convair's Lindbergh Field plant at San Diego to McDonnell Douglas' assembly facilities at Long Beach, Calif., aboard Aero Spacelines' whale-sized cargo aircraft called the "Super Guppy."

According to A. M. "Tex" Johnston, Aero Spacelines president, this is the first long-term commercial utilization of the expanding Guppy aircraft fleet.

However, the aircraft will be no new sight for General Dynamics. Often used by National Aeronautics and Space Administration for transporting major space hardware components, Guppies have carried Centaurs and related hardware from San Diego to Eastern Test Range more than a dozen times. In fact, a Guppy is scheduled to carry a Centaur to ETR this week for use on the AC-19 launch from Cape Kennedy.

Convair will construct five sections totaling 128 feet of the 179-foot DC-10 fuselage. Individual sections will range from nearly 20 feet in diameter—seven feet wider than current four-engine jet transport fuselages—to 14.4 feet. The "Super Guppy" has a cargo compartment 25 feet in diameter.

Prior to shipment, the two aft sections will be joined into one 38.8 foot element and the two forward sections into a single 54-foot element. An entire ship set can be airlifted in two air trips.

Boeing Unit Formed At Fort Worth Div.

Forty people from Boeing have been assigned to Fort Worth division to assist with testing of the Air Force's new short-range attack missile (SRAM) on the FB-111A strategic bomber.

Douglas B. Webendorfer is Boeing's Fort Worth test base manager. Ten from Boeing will join his staff each month until the total reaches 150.

FB-111A test aircraft equipped to carry and launch SRAM will originate flights in Fort Worth. Missile drops will be made over White Sands Missile Range in New Mexico.

Star II Again Aids Drillers

The General Dynamics submersible Star II, for the second time in less than a month, has been used to salvage oil drilling equipment from the floor of the Santa Barbara Channel off the California coast.

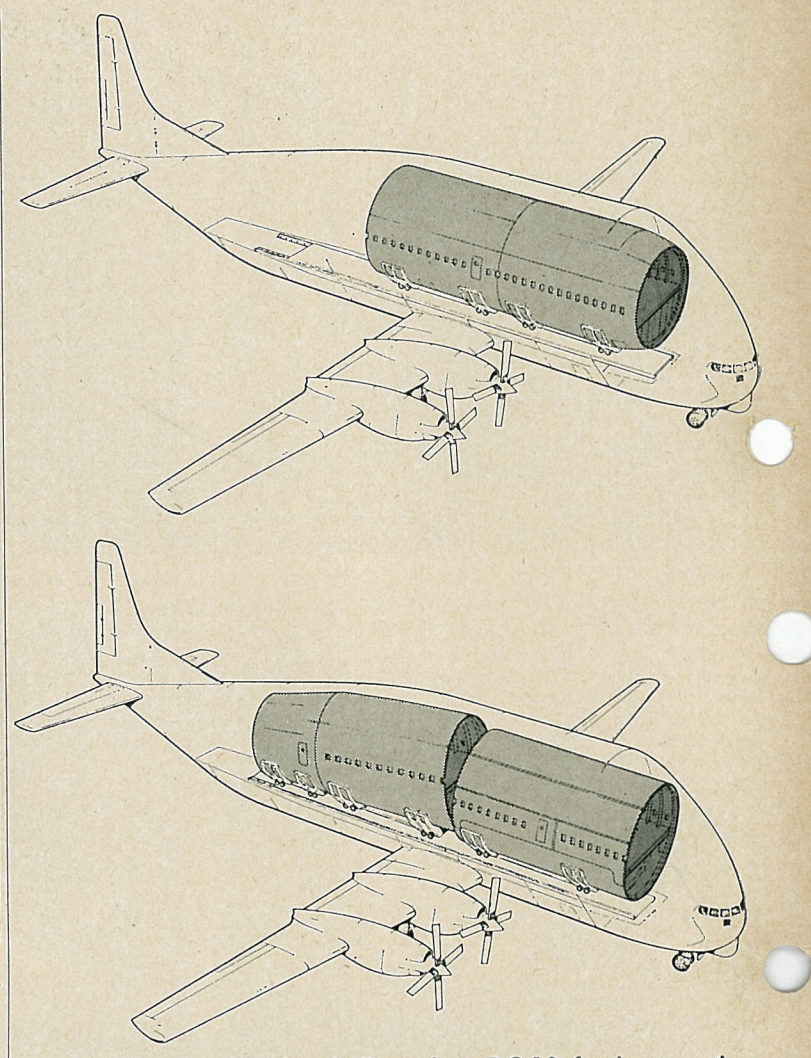
Star II was used recently to free an entanglement of guide wires, hoses, and hydraulic lines which had become snarled around an oil well head in 550 feet of water. Last month, Star II retrieved a ten-ton section of drilling pipe in the same area.

Louis Fead piloted Star II. The submersible's cutter-equipped manipulator arm was operated by George Treen, president of International Divers Inc., a subsidiary of Divcon Inc. of Houston, Texas, which leased Star II to Pauley Petroleum Co. for the job.

Veterans of Vultee Will Meet Oct. 6

Vultee Club will "come of age" this year with its 21st reunion, to be held Oct. 6 at Los Amigos Country Club in Downey, Calif., site of the old Vultee plant.

"Alumni" may receive information or make reservations through P.O. Box 4265, Whittier, Calif. 90605.



ALL ABOARD—Sketches indicate how DC-10 fuselage sections, built at Convair, San Diego, will be loaded aboard "Super Guppy" for hop to McDonnell Douglas' assembly facilities at Long Beach, Calif.

Automatic Phone System For Carrier Delivered

August was a significant milestone for Stromberg-Carlson.

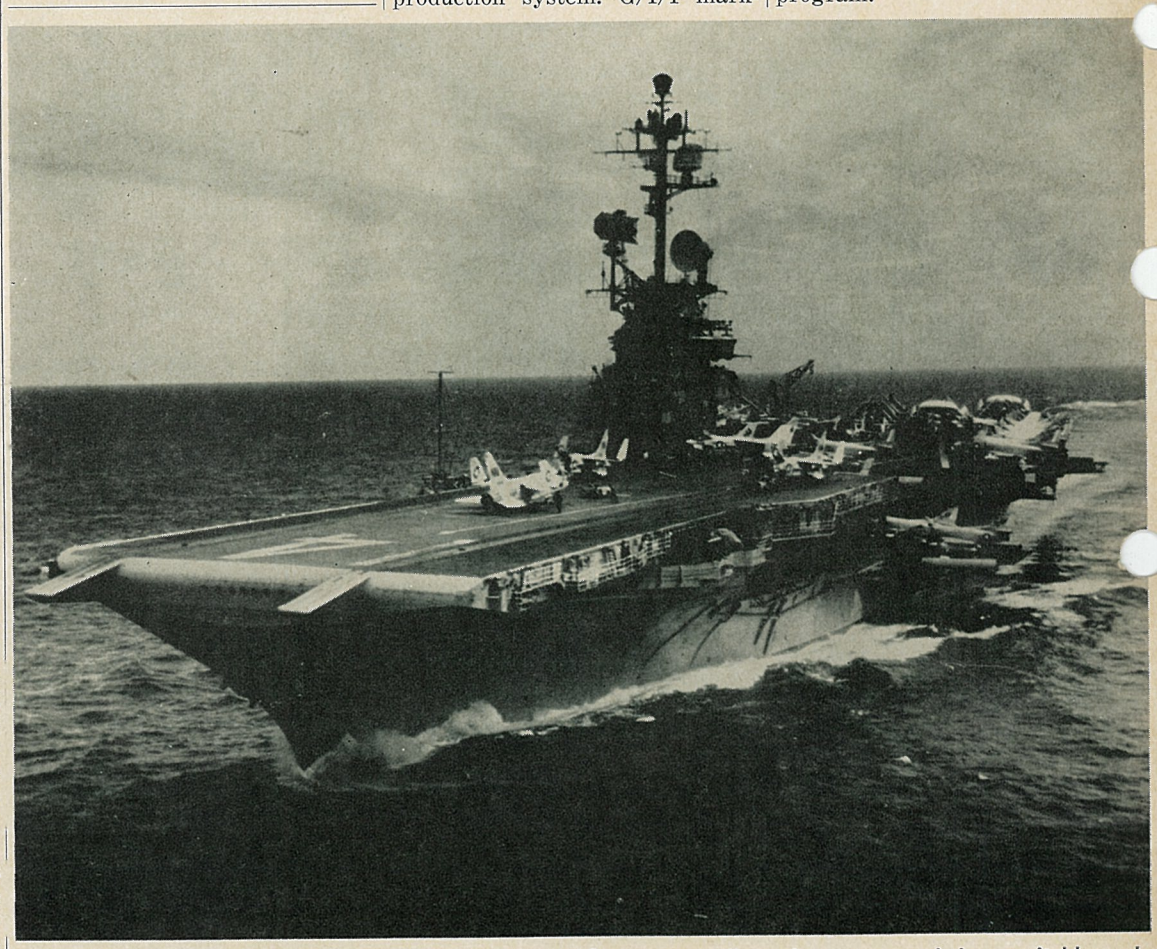
The first switchboard of the Marine DIALMASTER® MDM-200/700 automatic ships dial telephone system was delivered to the U. S. Navy. This first 500-line system will replace existing separate 100 and 300-line switchboards on the USS Ticonderoga.

The new system is 50 per cent smaller than other Navy-approved systems which permits larger capacities with a significant weight and space savings. It is an expanded version of the present MDM 100/15, and is available in capacities up to 700 prime lines with 100 per cent party service. Plug-in modules and XY switches are used throughout permitting line and link capacities to be increased with the simple addition of circuit modules.

The complete program required just one year from start of design to shipment of the first production system. G/I/I marketing in close liaison with COMNAVAIRPAC (Commander Naval Air Pacific Fleet) negotiated the contract on Aug. 14 requiring a concerted team effort to accomplish a quick-reaction delivery within 16 calendar days.

The MDM 200/700 system further expands Stromberg-Carlson's line of marine telephone products. These equipments include the 40-line Marine DIAL-X system used aboard all nuclear submarines, the Navy-approved Type G telephone set and various sizes of Marine DIALMASTER® system. Coupled with the sound-powered products from Charlottesville, marine products provide a firm basis for Stromberg-Carlson's further entry into the marine communications market.

Vincent Renda, product manager, marine communication products, commended all involved in the project, noting that the very close cooperation of all concerned was one of the highlights of the program.



ON BOARD—First 500-line Marine DIALMASTER® system will replace two existing switchboards aboard USS Ticonderoga.

Four Minutes Work a Day Is *YOUR* 'Fair Share' For Con-Trib-Club

Would you give four minutes a day to aid a researcher seek a cure for cancer, help a crippled child walk, provide recreational opportunities for underprivileged and blind children and assist a fellow employe's family when unexpected catastrophy strikes?

Convair employes can do all this — and more — by pledging "Fair Share" to Employes' Con-Trib-Club in its annual membership campaign under way tomorrow.

"Fair Share" is 8/10 of 1 per cent of salary — the equivalent of four minutes work a day — and when authorized is deducted automatically from paychecks.

Jack L. Bowers, division general manager, is chairman. The campaign runs through Oct. 25. Del Dimmitt, division fire chief, is overall campaign coordinator and 22 departmental coordinators have been appointed.

Bowers said United Community Services of San Diego County, which receives the bulk of Convair Con-Trib-Club funds for its 67 member agencies, is doing much to solve many of the urban problems affecting the community.

"These agencies work at grass roots level on urban dilemmas and can aid the less fortunate in becoming useful, productive citizens," he said.

"Need for financial assistance in carrying out these programs is greater than ever before," he said. "Each of us has an economic stake in our community and an obligation as a good citizen to see that the disadvantaged have access to guidance, health and recreational services."

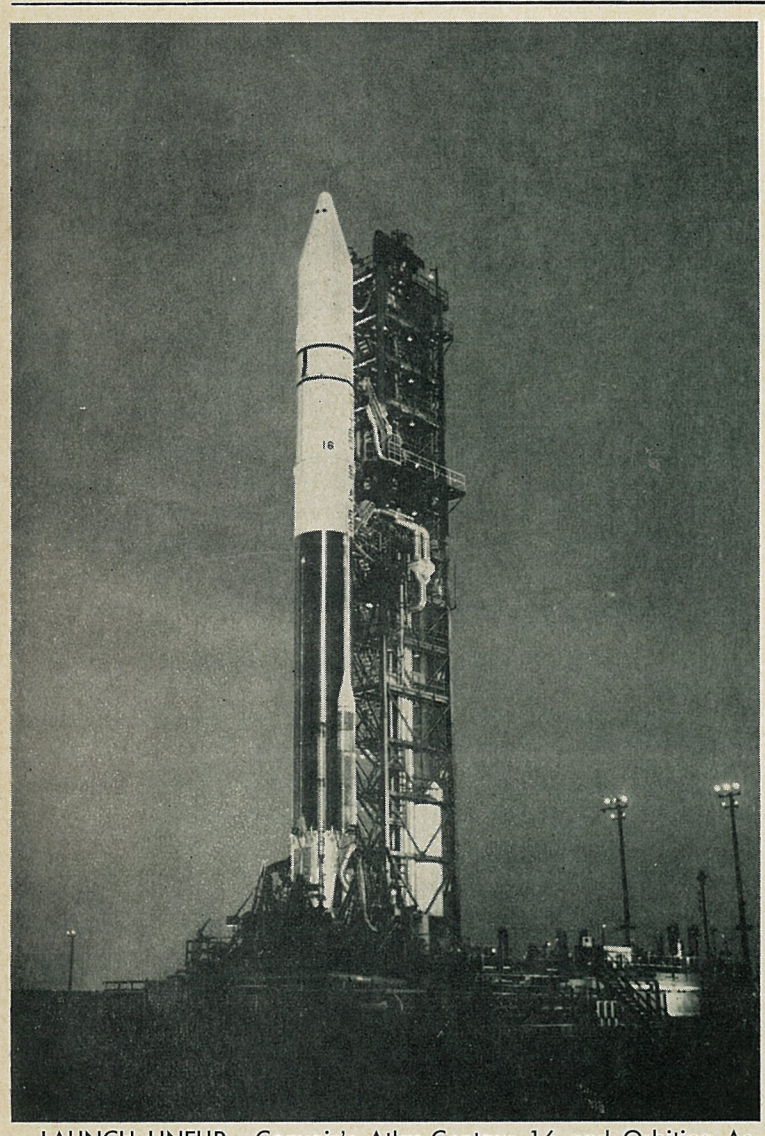
UCS, by consolidated fund raising for its 67 agencies, makes it possible to channel 90 per cent of its income directly into services. Operating costs for UCS agencies are minimized through use of about 18,000 volunteer

(Continued on Page 2)

SAN DIEGO EDITION

GENERAL DYNAMICS
NEWS

Vol. 21, No. 21 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, October 9, 1968



LAUNCH LINEUP—Convair's Atlas-Centaur 16 and Orbiting Astronomical Observatory-A2 are being readied for launch at Eastern Test Range. Length from nose fairings tip to bottom of Atlas engines skirts is 135 feet—more than 18 feet longer than Atlas-Centaur-Surveyor configuration. This will be first OAO launch by Atlas-Centaur.

50,000 Stars

AC-16 to Launch Observatory For Clear 'Look Into Universe'

Preparations are being completed at Complex 36B at the Eastern Test Range for Convair's Atlas-Centaur 16 launch to send NASA's Orbiting Astronomical Observatory-A2 into circular orbit around the earth.

A 32-man "Tiger Team" from Kearny Mesa, under the direction of Ed Lindgren, AC-16 project engineer, was at ETR last week for "product review" of the Atlas SLV-3C No. 5002C and Centaur 13D vehicles for the mission.

The AC-16 flight will be the 17th for Atlas-Centaur. The 4,376-pound OAO will be the heaviest spacecraft launched by an Atlas-Centaur and the nation's most advanced unmanned spacecraft.

OAO-A2 will be the second in a series of four such observatories designed to give astronomers their first sustained look into the universe from above the obscuring and distorting effects of the earth's atmosphere. The first attempt in 1966 was unsuccessful due to a spacecraft malfunction.

The Atlas-Centaur will have a single-burn, direct-ascent flight to place the OAO-A2 in a 417-nautical-mile near-circular orbit.

The observatory will carry Smithsonian and University of Wisconsin experiments to measure brightness of 50,000 stars in the ultra-violet spectrum, gather spectral energy distribution in-

(Continued on Page 2)

Shuttle Bus Service To Relieve Parking

Parking facilities for Lindbergh Field plant will be expanded and improved under a major program expected to go into effect in the near future, probably sometime in early November.

Principal parking relief centers on reviving a Convair lease on Compass Rose space and establishment of busing service from there to a central point in the LF plant, with trips at convenient hours and intervals.

Details will be announced prior to activation.

Roger Lewis Slated For Club Address

Roger Lewis, president of General Dynamics, will be guest speaker Oct. 16 at a "Presidents' Night" meeting of Convair Management Club in the Mission Bay Room of the Bahia Hotel, San Diego.

Past club presidents and presidents of other General Dynamics Management Clubs in Southern California are being invited.

Social hour will begin at 6 p.m. with a top sirloin steak dinner served at 7. Tickets are on sale at $3.85 each.

VAdm. Hayward New Dynamics Vice President

VAdm. John T. Hayward, president of the Naval War College from 1966 until his recent retirement from the Navy, has been named a vice president of General Dynamics, Roger Lewis, president, announced.

Adm. Hayward's technical and management experience will be applied to Corporate staff work and to varied programs of General Dynamics' divisions and subsidiaries, Lewis said.

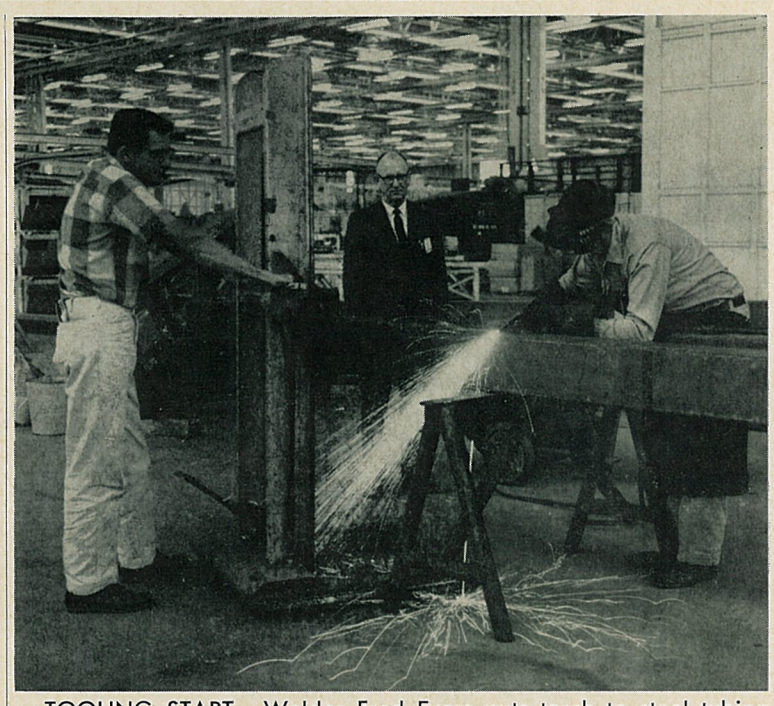
In a 38-year naval career, Adm. Hayward has been an aviator, engineer, nuclear scientist and commander of the Navy's first nuclear-powered strike force. For three years prior to his presidency of the Naval War College he was commander of Anti-Submarine Warfare Force, Pacific Fleet.

Between 1957 and 1962, he was Assistant Chief of Naval Operations (Research and Development) and Deputy Chief of Naval Operations (Development). Earlier he was commander and technical director of the Naval Ordnance Laboratory, headed weapon research for the Atomic Energy Commission and was plans and

(Continued on Page 6)



JOINS GD—VAdm. John T. Hayward, former president of Naval War College, has joined General Dynamics as a vice president.



TOOLING START—Welder Fred Evers puts torch to steel tubing that will be used for assembling tool fixtures on DC-10 project. Watching operation are Joe Williamson, center, general foreman of jigs and fixtures, and Joe Schimka, jig and fixture builder.

First 'Cut' Made On DC-10 Tooling

Convair division's DC-10 program has moved a step forward with arrival of the first shipment of tooling material for the $450 million project.

More than one million pounds of square steel tubing was unloaded at Plant 19 recently and additional shipments will be received periodically through December.

The tubing, after cutting to predetermined lengths, will be used for the manufacture of basic tool structures in assembling major portions of the DC-10 fuselage.

The program calls for Convair to build a major portion of the fuselage sections for the new McDonnell Douglas Advanced Technology Tri-Jetliner. The five sections, when mated, will be 128 feet long.

Major assembly area for DC-10 work will be in Bldg. 3 at Lindbergh Field, according to Joe Penner, senior tool project engineer. He said completion of major tools will be time-phased to coincide with factory assembly start dates.

The first fuselage sections are expected to be ready for delivery in late 1969.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

Q—What happened to "Q and A" in the last (Sept. 25) **GD/NEWS?** This is the best part of the paper. I hope this doesn't mean the column is discontinued.

A—Although "Q and A" continues to receive a healthy flow of questions, there simply were not enough questions of general interest to which firm answers had been obtained at presstime to make up a proper column. The column is definitely not discontinued and judging from telephone calls and other queries to "Q and A" its absence was widely felt. There is no question that "Q and A" has boosted GD/NEWS readership substantially since the program was instituted early this year.

★ ★ ★

Q—Could a reviewing board be formed to judge disputed Employe Suggestions? Employes whose suggestions

(Continued on Page 2)

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Oct. 1 and Oct. 15.

Thirty-year: Dept. 732, S. I. Moore.

Twenty-five-year: Dept. 027, R. E. Cloud; 045, A. R. Mooney Jr.; 966, R. L. Cox.

Twenty-year: Dept. 001, A. E. Boughter; 015, C. W. Sullivan; 027, R. P. Armenta, H. J. Partusch; 113, W. G. Rankin; 131, L. W. Turner; 142, R. A. Ackley; 101, J. K. Gaston; 150, Helen N. Duty; 210, Mary F. Braley; 452, R. A. Planchon; W. J. Hammond; 952, F. C. Rosaker.

Fifteen-year: Dept. 002, Evelyn R. Jones; 059, C. E. Thornton; 143, R. R. Brown, Beatrice H. Emeterio, Phyllis H. Milne; 149, H. Sterling; 195, Sylvia N. Akers; 250, J. B. Evans, L. M. Oldham; 401, C. H. Gladding; 507, R. L. Fagan, W. R. Stout; 575, J. E. Stengel; 531, R. B. Goodrich; 756, H. G. Craig; 780, H. S. Arneson, Elinor S. Rush; 967, W. F. Sauer; 999, W. E. Essington.

Ten-year: Dept. 059, Bonita F. Morrison; 130, Mary C. Barnes, H. A. Grabowski; 141, M. E. Gordon; 143, L. Ortiz; 144, J. J. Scott; 149, M. E. Lewis; 202, C. D. Durbin; 250, R. A. Bunn, K. C. Hall, R. L. Thornton; 403, W. R. Creider; 511, J. Bradshaw; 524, S. L. Lakes; 532, J. L. Kronert; 574, W. J. Stark Jr.; 587, G. W. Smith; 596, F. P. Boynton III; 731, O. E. Richardson; 732, R. L. Stipanovich; 780, Betty L. Aldridge, H. L. Hampton; 802, W. J. O'Leary, W. D. Johnston, M. N. Klos; 860, M. A. Johnson; 831, H. M. Steele; 833, Anna F. Johnson; 967, M. H. Schultz; 975, N. A. Takvam; 985, B. J. Golns.

ELECTRONICS

Ten-year: Dept. 204, G. G. Ragan; 465, L. L. O'Neal; 712, A. J. Anderson; 921, V. R. Bryant.

Awards

CONVAIR

Employe Suggestion awards approved for the week ending Sept. 20.

Dept. 780, H. D. Akers, $15.00; 574, R. J. Baldwin, $695.60; 144, H. M. Gallant, $15.00; 149, J. A. George, $1,606.00; 985, R. C. Ihrig, $15.00; 015, J. P. Lord, $31.50; 401, J. F. McConnell, $15.00; 015, J. A. Mikkelson, $62.40; 015, B. W. Nelson, $115.50; 780, G. C. S. Pommerenke, $30.00; 731, W. Strassburger, $15.00; 810, G. T. Vargo, $585.20; 250, J. I. Warren, $20.00; 031, E. Weems, $30.00 (two awards); 019, J. T. Whitfield, $15.00.

Employee Suggestion awards approved for the week ending Sept. 27.

Dept. 143, T. L. Anibal, $15.00; 148, W. T. Bennett, 149, B. A. Ross, $25.70 each (joint award); 149, W. L. Bilbrey, $18.90; 578, G. E. Copeland, $33.10; 027, R. C. Desaulniers, $15.00; 985, C. A. Dye, $15.00; 250, S. R. Franks, $15.00; 149, J. A. George, $110.30; 840, M. F. Gonzales, $144.60 (two awards); 511, F. J. Hagen, $15.00; 195, R. F. Hollings, $200.00; 840, J. E. Hoy, $39.60; 001, T. R. Iddings, F. C. Mackey, $15.00 each (two joint awards); 958, F. K. Jacobsen, $65.10; 015, J. D. Jones, $15.00.

Dept. 027, F. H. Kleckner, $149.90; 511, J. R. Margole, $31.60; 850, D. T. Murphy, $15.00; 143, J. J. Murphy, 733, J. D. Rehm, $33.05 each (joint award); 780, V. M. Nye, $17.60; 027, E. W. Pagel, $25.70; 015, R. L. Patrick, $27.10; 979, N. M. Robinsin, $15.00; 953, L. Rodrigues, $15.00; 541, A. Sansone, $122.00 (two awards); 575, R. C. Schaefer, $66.90; 518, L. E. Schoonmaker, $15.00; 954, E. T. Winn, $92.90.

Papers Presented

CONVAIR

BOEKAMP—K. M., Dept. 149. "Nondestructive Testing Personnel Training at Convair." American Society for Nondestructive Testing/at WESTEC — North Golden Gate Nondestructive Conference, San Francisco, Calif., Sept. 24-26.

LUKENS—D. R., Dept. 966. "A Digital Flight Control System for Future Atlas/Centaur Vehicles." SAE/Aerospace Vehicle Flight Control Systems Committee Meeting, Las Vegas, Nev., Sept. 23.

MAGNUS — R., W. GALLAHER, H. YOSHIHARA, Dept. 570. "Inviscid Supercritical Airfoil Theory." AGARD Fluid Dynamics Specialists Meeting on Transonic Aerodynamics, Paris, France, Sept. 18-20.

MERZ—P. L., Dept. 572. "Viton as an Improved Elastomeric Seal Rubber for Aerospace Vehicles." SAE Committee G-4 Meeting, St. Paul, Minn., Sept. 9-11.

VARLAS—M., Dept. 572. "High Modulus Graphite Filament Reinforced Resin Composites." American Society for Metals/Golden Gate Metals Conference, San Francisco, Calif., Sept. 25-27.

In-Plant Training

ORIENTATION

NEW EMPLOYES — Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Monday, Oct. 14 and 21, 8 a.m.

Lindbergh Field: ext. 491, Bldg. 14 auditorium, Monday Oct. 14, 8 a.m. for 1st shift. Today, Oct. 9, 4:30 p.m. for second shift.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF-STUDY—A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Births

CONVAIR

DESAULNIERS — Paul Charles, 8 lbs. 8 oz., born Sept. 20 to Mr. and Mrs. Richard C. Desaulniers, Dept. 027.

Invention Disclosures

CONVAIR

AINSWORTH—R. D., Dept. 967. Wide line scribe for automatic drafting machine (ADM).

CASCO—E. L., Dept. 592. Disposable urinal.

DEWEY—D. B. Jr., N. W. SCHOFIELD, Dept. 506. An improved method for the design and construction of steel fibre reinforced thin wall cemented structures.

INGRAM—D. L., Dept. 491. Flexible, vacuum attached, skate track and self-compensating friction-driven carriage and drive mechanism.

JORDON—M. K., Dept. 491. Helicopter Stabilization device. Shock-wave reducer. (Two inventions).

KENNEDY—N. H., J. W. MILDICE, W. A. RODEN, Dept. 491. Weld energy controller (weld energy limiter).

RADER—P. S., Dept. 572. Waterproofing of portable landing field mats; regardless of manufacturer.

RODEN—W. A., Dept. 491. Fluid injector for low velocity lines.

SERNIUK—M., Dept. 401. Stratified internal combustion engine.

Notices

CONVAIR

Will the Convair employe who witnessed the auto accident on Interstate 5 between First and Grape at 3:40 p.m., Sept. 18 contact P. G. Davila, ext. 1413 LF or (home) 582-2506.

Rider-Driver

CONVAIR

RIDE WANTED—From 73rd St., La Mesa to Lindbergh Field plant, 7 to 3:30 p.m. shift. Phone Shirley Cass, ext. 1208 LF, after 4:30 p.m.

RIDE WANTED—From 2nd and Main St., El Cajon to Lindbergh Field plant, 8 to 4:45 p.m. shift. Phone Joan McKay, ext. 520 LF.

RIDE WANTED—From 30th and Highland, National City, to Kearny Mesa plant, 4:30 p.m. to 1 a.m. shift. Phone Norman Devlin, ext. 1441 KM or (home) 474-6078.

RIDE WANTED—From 34th and Adams to Kearny Mesa plant, 7:30 a.m. to 4:15 p.m. shift. Phone Mary Harrison, ext. 2121 KM or (home) 284-4132.

RIDE WANTED—From Rancho Bernardo to Lindbergh Field plant, 7 a.m. to 3:30 p.m. shift. Phone Judy Echols, ext. 437 LF or (home) 748-3794.

RIDE WANTED—From Poway Valley Homes to Lindbergh Field plant, 7:30 a.m. to 4:30 p.m. shift. Phone Beverly Woffinden, ext. 2038 LF or (home) 748-3884.

RIDE OFFERED—From Point Loma to Lindbergh Field plant, 8 a.m. to 4:45 p.m. shift. Call Len Gaber, ext. 2334 LF or (home) 224-5728.

RIDE WANTED—From 54th St. and El Cajon Blvd. to Lindbergh Field plant, 7:30 to 4 p.m. shift. Phone Julie Rosenthal, LF ext. 2150 or 1100, or (home) 583-9083.

Retirements

CONVAIR

BISHOP—Louis L., Dept. 031-0. Seniority date Nov. 12, 1941, retired Sept. 27.

BLAKEFIELD—Frank G., Dept. 810-0. Seniority date Sept. 26, 1955, retired Sept. 27.

BURNS—David C., Dept. 833-2. Seniority date March 18, 1952, retired Sept. 27.

CUNNION—Thomas J. Jr., Dept. 250-3. Seniority date July 29, 1940, retired Sept. 30.

GORDON—James W., Dept. 756. Seniority date Sept. 7, 1951, retired Sept. 28.

JOHNSON—Melvin L., Dept. 988-7. Seniority date Sept. 26, 1947, retired Sept. 30.

KRAMER—Lily H., Dept. 840. Seniority date June 30, 1942, retired Sept. 30.

MARTIN—Boston L., Dept. 130-1. Seniority date June 18, 1951, retired Sept. 6.

MOORE—Perry, Dept. 130-1. Seniority date March 18, 1952, retired Sept. 9.

PHILLIPS—Alfred A., Dept. 250-1. Seniority date Sept. 14, 1950, retired Sept. 27.

SALINAS—Juan G., Dept. 250-4. Seniority date Sept. 21, 1956, retired March 16.

SCHMIDTKE — Herman, Dept. 001-0. Seniority date July 25, 1966, retired Sept. 30.

SNODGRASS—Robert D., Dept. 250-6. Seniority date Oct. 3, 1947, retired Sept. 10.

WALKER — Whyile T., Dept. 250-4. Seniority date May 28, 1956, retired Sept. 27.

WISE—Ralph E., Dept. 985-6. Seniority date April 20, 1959, retired Sept. 30.

Deaths

CONVAIR

BOW—Harry R., Dept. 460-0, died Sept. 28. Survived by his wife, Eleanor, a son, Clifton, and daughter Ann Treat.

BENESCH—Albert, Dept. 401-1, died Sept. 30. Survivors include a brother, Robert, and six sisters.

PHELAN—John J., Dept. 979-4, died Sept. 10. Survivors include his wife, Janie.

General Dynamics News

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Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

HERE ARE YOUR REPRESENTATIVES

An important part of democratic government is the privilege of voters' making their opinions known by writing to representatives in Congress.

U.S. SENATORS

Sen. Thomas Kuchel — Senate Office Building, Washington, D.C. 20510.

Sen. George Murphy — Senate Office Building, Washington, D.C. 20510.

U.S. REPRESENTATIVES

35th District — Rep. James B. Utt, House Office Building, Washington, D.C. 20515.

36th District — Rep. Bob Wilson, 2235 Rayburn Building, Wahsington, D.C. 20515.

37th District — Rep. Lionel Van Deerlin, House Office Building, Washington, D.C. 20515.

AC-16 to Launch Observatory

(Continued from Page 1)

formation on stars and nebulae in the ultra-violet range and measure time-varying spectral intensity of particular stars.

Grumman Aircraft Engineering Corp. is spacecraft prime contractor for NASA's Goddard Space Flight Center and Atlas-Centaur management is by NASA's Lewis Research Center.

Daniel Sarokon, Complex 36 manager for Convair, will be launch conductor.

Insulation panels for the Atlas-Centaur will be jettisoned during Atlas sustainer-engine burn but nose fairings will be retained until 12 seconds after Centaur engines start, protecting the OAO from Atlas retrorocket exhaust.

The OAO will be separated 50 seconds after Centaur main engines cut off. Orbit separation to move the Centaur "out of view" of the spacecraft will be achieved by turning the Centaur and "blowdown" of remaining propellants.

Lindgren was "Tiger Team" chief for the ETR product review last week with J. W. Swigart as chief Atlas program representative, R. H. Thomas as technical chief, Claude C. Campbell Jr. in charge of equipment assessment and Charles Bierman as team coordinator.

Others from KM and their areas of responsibility included M. J. Debreceni and Al Vinzant, propulsion; E. R. Kimmy, propellant loading system; C. W. Algur and F. W. Anding, pneumatics; Murray Ogman and J. B. Jarman, hydraulics; J. T. Heffron, structures; H. E. Harper and John Largent, autopilot; Kenneth Catlin and C. K. Perkins, propellant utilization; E. H. Luke, guidance.

Also G. L. Tidwell, range safety command and radio frequency; L. D. Haber, telemetry; H. G. Yett, instrumentation; A. V. Bradshaw, launch control; J. W. Schaelchlin, electrical; J. W. Taylor, J. N. Brown and A. W. Wiest, reliability; E. H. Christensen, thermodynamics; Paul Buchy Jr., stress; R. F. Boyles, Rocketdyne representative; Harold Lee, operations; G. K. Jerahian, structures, and George Hayashi, test evaluation.

Key Convair personnel from ETR assisting, in addition to Sarokon, included assistant site managers J. M. Kechele, mechanical; D. J. Merritt, guidance and autopilot; J. H. Sylvester, electrical; J. L. Johnson, instrumentation. A. T. McArdle was ETR quality assurance representative.

GD MEN ATTEND MEETING OF SAE

General Dynamics men have key roles in the Society of Automotive Engineers national aeronautics and space engineering and manufacturing meeting this week in Los Angeles.

From Convair are W. W. Withee, general chairman, engineering program planning committee; G. A. Grossaint and D. H. McCoy, engineering program committee; Richard A. Nau, launch vehicle operational experience session; C. E. Roye, chairman, and Gerald G. Langford, secretary, filament reinforced structures session.

Pomona personnel include Jack Mason, C. V. Armstrong and B. E. Justice, integration of quality control.

Technical papers are being presented by B. E. Chitwood, H. J. Hillaker of Fort Worth; J. C. Ballinger, John R. Burnett, C. D. King and G. V. Wood of Convair.

VAdm. Hayward New GD Vice President

(Continued from Page 1)

operations officer in the atomic weapon project at Sandia Base, N. M.

Adm. Hayward graduated from the United States Naval Academy in 1930 and in subsequent years did graduate work in physics and electronics at the universities of Maryland, Pennsylvania and New Mexico, Stanford University and California Institute of Technology.

You can buy U. S. Savings Bonds regularly for as little as 50 cents a week.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

★ ★ ★

(Continued from Page 1)

have been rejected have no recourse other than to accept management's decision.

A—Employes always have recourse by applying to higher management levels. If unsatisfied after discussing the matter with cost reduction and value control, the CR/VC manager at KM will review the ES with you (KM ext. 2467).

Several months ago an ES Review Board was established to deal with controversial cases and if productive after a trial period may be made permanent. Meanwhile, if you seek a review before the board, discuss this with your departmental cost reduction rep.

★ ★ ★

Q—The exit from the rider-driver lot at Kettner and Sassafras, LF, is in such disrepair that cars can be damaged. Can action be expedited?

A—Arrangements are being made with our contractor to make repairs.

★ ★ ★

Q—Can anything be done to improve air conditioning at LF's Bldg. 5, third floor?

A—Work to install additional cooling capacity has been approved and completion is expected in 45 days.

★ ★ ★

Q—On Monday mornings the temperature is always in the 80's at LF, Bldg. 5, second floor. Can air conditioners be turned on sooner so that it is comfortable when we start work?

A—Maintenance has been requested to start the conditioners earlier.

★ ★ ★

Q—Several months ago "Q and A" in **GD/NEWS** mentioned reconditioning tables and benches in eating areas at KM. I can't see any improvement. Benches at LF are clean but at KM we pray for rain.

A—The KM reconditioning project was delayed but is now 70 percent complete and the balance will be completed in 30 days.

★ ★ ★

Q—Since Christmas Day is on Wednesday this year, will we be paid the Tuesday before Christmas, or will the situation be the same as it was over July 4?

A—Convair will close Monday, Dec. 23, through Wednesday, Dec. 25. Paychecks for second and third shifts will be distributed Thursday, Dec. 26, and for first shift at the regular time Friday, Dec. 27.

★ ★ ★

Q—Does absenteeism affect Convair's efficiency rating and if so what effect does this have on our getting new contracts?

A—Convair is unaware of any such evaluation being taken into consideration by a buying agency in awarding contracts. However, absenteeism certainly decreases efficiency and raises costs, and therefore could have an impact on competitive position in bidding for business.

★ ★ ★

Q—Why can't an adequate southbound exit be provided for LF parking Lot 5?

A—Plant engineering is requesting City permission to improve this.

★ ★ ★

Q—Housekeeping at LF parking lots is poor. Can something be done?

A—Steps have been taken to clean up the lot and program regular sweeping.

★ ★ ★

Q—We used to have a patio lunch area across from LF overpass No. 1. With employment rising, can this be reactivated?

A—It is reopening this week. (See story.)

Four Minutes Work Every Day Is Your Con-Trib 'Fair Share'

(Continued from Page 1)

workers.

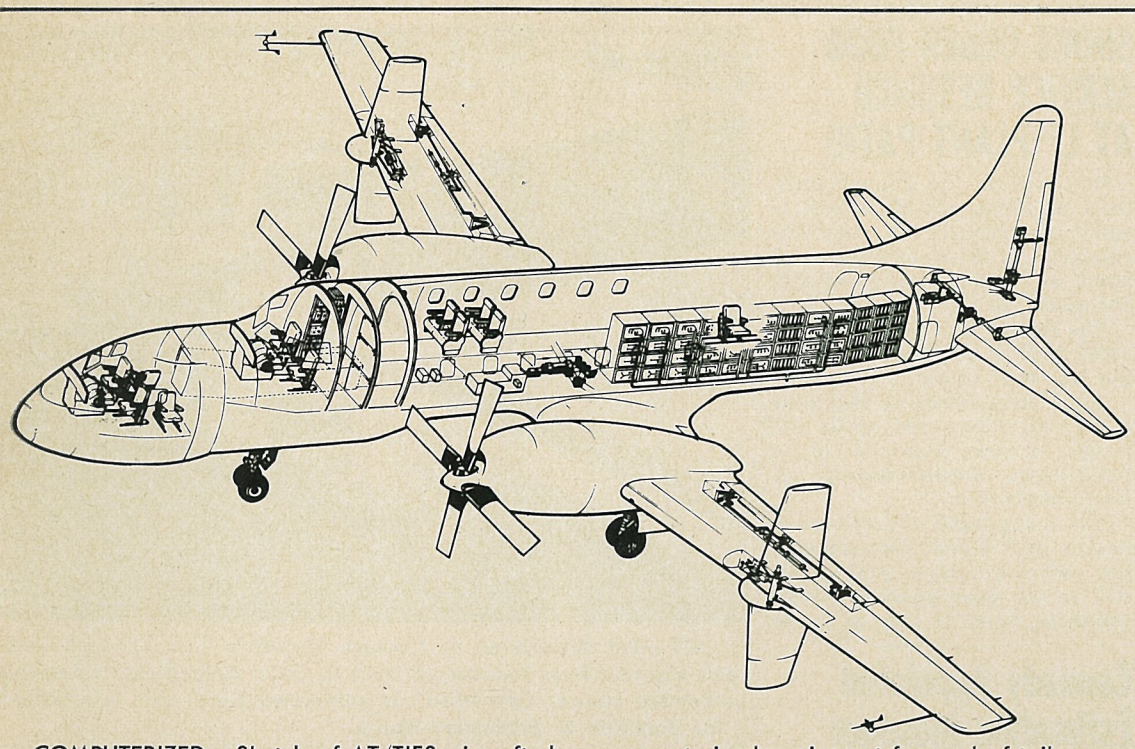
Goals for the Con-Trib campaign are 95 per cent participation and pledges totaling $550,000.

Con-Trib-Club, in addition to supporting UCS, provides operating, equipment-purchase and program-support funds for many other organizations such as the American Cancer Society; San Diego County Heart Association; hospitals; agencies for the retarded, crippled, blind, cerebral palsy, arthritis, cystic fibrosis, mental health and alcoholism; Salvation Army and numerous youth organizations.

Ten per cent of Con-Trib funds are used for Emergency Aid grants to employe families in unexpected financial crisis situations.

Departmental campaign coordinators, listed by area of responsibility:

Legal, contracts, marketing and community relations — John DeBlanc; industrial relations—Dimmitt and Paul Veal; material — G. W. Zahrte and Warren Jones; quality control — Paul Benner and Roy Gilliland; finance—Fred Wyncoop; launch vehicle programs — Paul Green; engineering —Paul Ferrara and Bill Ochodnicky; Plant 19—Clyde Medearis and Mike Clark; operations — Frank Blair, H. J. Richardson, Don Fagan, J. M. Farrar and W. J. Stanley; ETR—K. E. Newton and J. N. Freeman, and WTR —Roger Lynch and M. F. Tooley.



COMPUTERIZED—Sketch of AT/TIFS aircraft shows computerized equipment forward of tail assembly which will accept and translate in-flight problems of qualifying pilots. All flight functions involving engines, wing and tail assemblies are linked to computers, causing modified Convair 580 transport to react with simulated aircraft's characteristics.

Fabrication of Two Nose Sections Ordered For Simulator Program

Two contracts totaling $756,000 for Convair's Air Transport Total In-Flight Simulator program have pushed the AT/TIFS package past the $2 million mark.

Largest of the two contracts, according to Frank Signorelli, AT/TIFS program manager, was $700,000 to fabricate two 707 TIFS configuration nose sections, including nose and adapter.

The other contract of $56,000 was an engineering task to update environmental control system to the Dart configuration.

The AT/TIFS airplane which Convair is designing for Tex Johnston, Inc., of Santa Barbara, will incorporate a Boeing 707 nose section attached to the front of a modified Convair 580 transport. It will be used by commercial airlines for training and retraining pilots of Boeing 707/720 aircraft.

Qualifying pilots in the 707 cockpit will fly the airborne simulator with its authentic 707 controls and instruments. Pilot "feel" and pilot environment will be identical to that of the simulated aircraft.

On-board training personnel will feed in-flight problems into a computerized system, causing the AT/TIFS aircraft to react with 707 characteristics. This will demand interpretation and solution from the qualifying pilot through his 707 controls.

Over-ride pilots in the Convair cockpit monitor and control performances of qualifying pilots and can, if necessary, instantly disengage simulator controls and return the aircraft to normal operation, providing an added safety factor.

The in-flight simulator will save airlines thousands of dollars in initial and recurrent training costs. Savings will be realized through the low operating cost of the Convair airplane and the fact that it will not be necessary to take a 707/720 out of revenue service for training purposes.



TECHNOLOGY TOUR—Members of Western Technical Liaison Group shown during Convair Kearny Mesa plant tour as W. A. Shafer, M.D., Convair's life sciences section, describes operation of field effect monitor. From left are James Thomas and Alex Mirosav, NASA; Kirk Raynesford, AFSC; W. L. Godsey, Jr., General Dynamics Dayton field office; Dr. Robert Behringer and Cdr. P. P. Doyle, Navy; Mark Hattan and and Maj. Kelly DeLoache, AFSC; Maj. Louis Kliebert and Lt. Col. Frank Bott, Army; Arthur Kimberley, AFSC; Edgar Wulzen, Army; Lt. Col. W. H. Trammell, AFSC. Group was at Convair Sept. 26 and 27 for science and technology review by General Dynamics representatives.

GD Experts Brief Visitors On Varied Product Lines

Fifteen Army, Navy, Air Force and NASA Western Technology Liaison Group members were at Convair division's Kearny Mesa plant in San Diego for briefings by Convair, Pomona, Stromberg Datagraphics and Electronics-SD representatives.

Included were representatives from the U.S. Army Combat Development Command, U.S. Army Procurement Agency, Office of a Naval Research, Air Force Systems Command Science and Technology Liaison Offices in Los Angeles and Point Mugu, and NASA offices in Huntsville and Pasadena.

Lt. Col. W. H. Trammell of the Air Force Systems Command Science and Technology Liaison Office in Los Angeles outlined meeting objectives. Tours of Convair's space sciences and life sciences areas were conducted by Dr. K. A. Stone and R. C. Armstrong, M.D.

Technology presentations, listed by subject and speakers, included:

Convair — product lines, Bruce McKay; current space systems, M. R. Barlow; materials technology, Abe Hurlich; electronics systems, Orison Wade; advanced tactical systems, W. A. Reinman; reusable space systems, R. A. Nau; tilt-wing technology, A. D. Riedler.

Pomona—introduction, Carl Undesser; component and subsystem technology, R. H. Sneed; systems integration-surface to air, C. C. Durand; systems-air to air intercept technology, L. B. Smith; air-surface reconnaissance and weapons systems technology, R. E. Hawes Jr.

Stromberg Datagraphics — introduction, Richard A. Glaeser; special purpose display equipment, Richard E. Thoman; militarized airborne displays, Ronald E. Handy; standard products including SD-1110, Hal Holmerud.

Electronics-SD — advanced airborne radar, missile radar seeker, surveillance and detection devices, advanced radome design, microwave holography, major systems programs, Frank P. Stoklas.

Pomona Man Named To National Board

L. V. Davis, Pomona division, Dept. 21-1, has been appointed to the executive board of National Industrial Management Association as a representative of the Saddleback Chapter of Orange County.

Davis is also serving as chairman of the employment committee for the association which has its national headquarters in Los Angeles.

USS Billfish Gets 'Gigi' Signature

Construction on the USS Billfish (SSN 676), the Navy's 55th nuclear attack submarine, was started by Electric Boat division in recent ceremonies at the Groton, Conn. shipyard.

The wife of RAdm. Philip A. Beshany, who commanded the first Billfish, welded her nickname, "Gigi," on the first keel plate.

The USS Billfish is the second Sturgeon-class submarine to have her keel laid at the yard this year.

Savings and Stock Plan 1965 Accounts to 'Open' For Distribution Choice

Salaried members of the General Dynamics Savings and Stock Investment Plan who participated during the Plan's first "year" of operation (October-December, 1965) will have an opportunity soon either to elect to receive a distribution of their 1965 accounts or to elect to defer distribution.

Employe services will distribute, prior to Nov. 1, two cards to each eligible member. One card is blue and is to be used to elect a current distribution. The other card is orange and is to be used for leaving the 1965 account invested in the Plan. Plan members should indicate their decisions by signing one of the cards and returning it to employe services no later than Nov. 30, 1968.

QUESTION: If I elect to receive a distribution of my 1965 account what will I receive?

ANSWER: If you sign the blue card and return it to employe services, a valuation of your 1965 account will be made as of Dec. 31, 1968. If General Dynamics stock is involved the Trustee, Bankers Trust Co., will arrange for issuance of stock certificates for full shares in your 1965 account. You will receive cash for the value of any fractional shares and cash for the value of your account in the government bonds fund and the diversified portfolio fund for that year, if applicable. Thus you will receive the value, as of Dec. 31, 1968, of your own contributions and those of General Dynamics (50 cents for every dollar you invested) paid during 1965.

Q—What will happen if I elect not to have a current distribution of my 1965 account?

A—If you sign the orange card and return it to employe services, then the Trustee will not make a distribution to you but will continue to invest your 1965 account. This will not be available to you without penalty until your termination of employment or retirement. This provision in the Plan is required by federal tax laws.

Q—What is the "penalty" for requesting a withdrawal of my 1965 account at some other time?

A—The Plan allows you to withdraw units and/or shares equal to at least $300 of your own contributions (but not the earnings from them). But if you do so, you will be barred from participating in the plan for three months. The Savings and Stock Investment Plan booklet, which has been distributed to all Plan members, lists withdrawal options in detail.

Q—What will happen if I don't get my card returned to employe services in time?

A—If you do not submit either card to employe services by Nov. 30, the Trustee will continue to invest your 1965 account for you. Federal tax laws and the regulations of the Plan provide that you must request the "short-term distribution" prior to Nov. 30, 1968, if you wish to withdraw your 1965 account without penalty.

Electric Boat Studies Pollution; Waste Water Reduction Eyed

Electric Boat division is tackling the problem of water pollution under a contract to the Federal Water Pollution Control Administration.

Among the aims is to determine what can be done to reduce the amount of waste water from households and also provide better means of treating wastes.

Harold Wallman, EB chief of chemistry / chemical engineering section, and program manager on the study, says that each person in the average American household uses "about 70 gallons of water daily — or twice what is really necessary from a standpoint of health, hygiene and comfort."

Wallman says that the pollution abatement study is aimed at significantly reducing water consumption and reducing waste flow into ground and surface waters. "This could be done," he says, "by installing special plumbing fixtures to control excessive water flow, by installing household appliances which would reclaim and reuse water, or by installing waste treatment systems in the home."

As an example, shower and bath water, with a minimum of treatment, could be used for watering the lawn. The purpose of the study will be to select the most promising technical approach that would also be acceptable to the homeowner.

The effective reduction of waste water flow from households would not only relieve the load on community waste treatment systems, but would minimize contamination of soil, well water, and natural drainage. Water-short areas would also benefit through water conservation and through household reclamation and reuse of water.

The study will evaluate new methods, new devices, and different system arrangements for the household. In addition, the study will include a survey of existing household waste treatment systems, an evaluation of quality standard for such systems, and an investigation of the waste disposal problems for homes not connected with central sewerage systems.

Wallman notes that while some people might consider it undesirable to reuse water, the idea is nothing new. "While they don't know it," he says, "most homeowners are already reusing water which has been used by someone else and returned to the waterways. As long as water quality standards are maintained, however, no danger exists."

★ ★ ★

Pollution Control Committee Holds Meeting in Chicago

The General Dynamics Pollution Control Committee met in Chicago in September. Resources Group at Material Service headquarters hosted the event.

Presentations by several division representatives highlighted the two-day affair.

Walter W. Walker, technical director of Marblehead Lime Co., reviewed experiences in the treatment of liquid waste and waste disposal.

Experiences and capabilities in air-sampling were related by Byron Kress, project engineer in nuclear and applied research section at Fort Worth division.

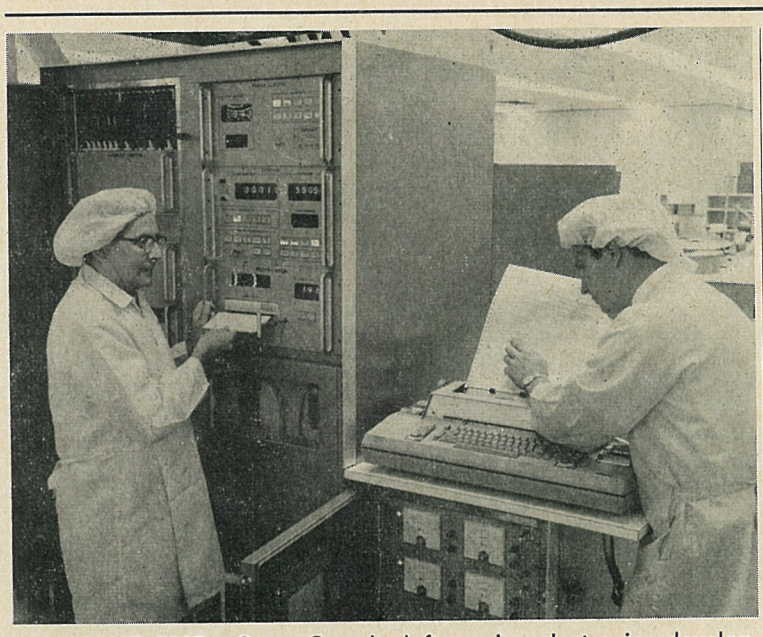
Phyllis Feddersen of Pomona division reviewed activities of the Aerospace Industries Association in California.

Regulations and control of air and water pollution were discussed by representatives from Illinois and the City of Chicago.

Attending the meeting were: Richard Firth, Corporate construction engineer; Dr. John P. McCann, Corporate director of health and safety; Phyllis Feddersen, Pomona; Oryst Gudz, Canadair; L. W. Droel, Stromberg-Carlson; G. C. Garris, Quincy; Bob Coen, Electric Boat; W. J. Stanley, Convair (chairman); Arvid Tienson, Material Service; Frank Paschal, Fort Worth.

AIRLINE CUSTOMERS HEAR HORNE

C. F. Horne, Pomona division president, spoke Oct. 3 at the International Airline Customer Service Conference in Los Angeles.



TEST SET TEST—Gene Gerndt, left, senior electronics development technician in Convair's Dept. 780-2, and Joe Zintel, supervisor, check out test equipment for Pomona division's use in Standard ARM (anti-radiation missile) program.

Delivery of Sixth Test Station For Pomona Due This Week

Last of six large test "stations" being built by Convair division's electronics manufacturing Dept. 780-2 for Pomona division for use in checkout and testing of Standard ARM anti-radiation missiles is scheduled for delivery from the Kearny Mesa plant this week.

The sixth unit is one of two FATE-5843 factory acceptance test equipment stations for use in Standard ARM autopilot steering control testing.

Joe Zintel, Dept. 780-2 supervisor, said each incorporates more than 100 printed circuit boards, including many with logic modules attached, and more than 8,000 separate wires in its circuitry.

Magnetic tape will be used for automatic test sequencing and data storage. Data on anomalies can be reproduced from tape by an IBM electric typewriter used in conjunction with the system.

Convair previously delivered two TE-5700 test stations for complete missile checkout and two DSM-75 units for use at Navy depots in test, service and maintenance operations.

J. M. Farrar of Dept. 203-1, program manager, said the test stations were designed by Pomona division and incorporate "real state-of-the-art" electronics technology.

Annual Family Picnic Held at Vandenberg

More than 300 Convair employes and family members from Vandenberg AFB attended the ninth annual CRA picnic Sept. 22 at the Union Oil Co. picnic grounds near Santa Maria.

This year's picnic was cosponsored by CRA and the Convair Vandenberg Management Association, with both organizations donating prizes.

Sam Botta, picnic chairman, was assisted by Denny Barber, Red Holeman, Earl Van Huss, Andy Hyland, Chuck Barnes, Harry Ramman, Don Jardee, Barbara Lingenfelder and Ray Forrest.

Settlement House Truck Delivered

Thanks to Convair division's Con-Trib-Club, the Bayside Settlement House of San Diego has a new ¾-ton carryall truck.

Pink slip and keys to the truck were presented recently to Sister Anne Field, executive director of BSH, by Bill Alexander of reliability control.

Alexander was chairman of the group which helped refurbish the truck, purchased from GD by the Con-Trib-Club.

The vehicle will be used for transportation of students and materials.

Convair Son Earns High Scouting Honor

Daniel Greenwald, 17, son of Convair general accounting's James Greenwald, has been chosen San Diego County's "Report to the Nation" Boy Scout.

Young Greenwald will compete with other area representatives hoping to be one of a dozen regional winners who will go to Washington, D.C. to report to the President and Congress on scouting.

Race Night Tickets Selling at $3.50

Tickets for the Oct. 26 Convair Management Club "Night at the Greyhound Races" at Caliente are on sale at $3.50 per person through club boosters.

Dinner will be served at the Caliente clubhouse at 7:30 p.m. Racing begins at 8 p.m. and the eighth race will be named for the club. Mike Alianelli and Gerry Nuss are co-chairmen.

Honorary Members Greeted by Club

Eighteen from Defense Contract Administration Services at Convair have been presented honorary memberships in Convair Management Club.

Included were Col. Charles F. Merz, commander of the DCAS plant representative's office, and Lt. Col. J. B. Garrison, deputy commander.

Also, R. D. Bandy, J. A. Buchans, A. L. Di Masi, Andrew W. Falej Jr., J. S. Garcia, J. F. Harrison, H. C. Heil, A. E. Hinck, J. Z. Mraz, J. C. Nemec, R. D. Raney, P. D. Sanchez, R. E. Thompson, W. H. Turner Jr., C. W. Wells and W. E. Wray.

Changing Locations? Notify Phone Clerk

Convair personnel changing plant locations — even for one or two-week temporary assignments — have been asked to notify a telephone directory clerk of the extension at which they may be reached.

Charlotte Bowen, supervisor of telecommunications, said time can be saved and incoming calls expedited if employes relocating will give new extension numbers to directory clerks at ext. 1026 KM or 1755 LF.

Telephone extension tab runs used by switchboard operators are updated manually each day and reproduced by computer each week.

Hygienist to Talk At Health Meeting

Len Breen, Convair division industrial hygienist and safety engineer, will discuss "Control of Heart Patients in Industry" Oct. 11 at the 12th annual Western Industrial Health Conference in Las Vegas, Nev.

Breen is a member of the Industrial Heart Committee of the San Diego County Heart Association.

SHORT ORDER FOOD SERVICE RESUMED AT LF PLANT PATIO

Overload on the Convair cafeteria at Lindbergh Field will be eased substantially this week with reopening of the short order snack stand and patio on a level with Overpass No. 1.

The freshly painted and redecorated facility has been closed for the last four years.

John Curry, cafeteria chef manager, said chairs and tables will be placed under umbrellas in the patio area, accommodating approximately 450.

The snack stand will offer short orders and liquid refreshments, but will not have a grill. Hours will be the same as those for the cafeteria, from 11 a.m. to 1 p.m.

Cannady Appointed Estimating Manager

J. C. Cannady, formerly manager of finance, scheduling and administration for launch vehicle programs, has been assigned as manager of estimating for Convair division, reporting to J. D. Milling, controller.

The launch vehicle programs estimating function, reporting to H. M. Williams, became a part of division estimating reporting to Cannady, who will continue to be located in Bldg. 26 at Kearny Mesa.

W. W. Johnson has been assigned as manager of financial control for launch vehicle programs, reporting to Grant L. Hansen, vice president-launch vehicle programs. Johnson will be responsible for all functions except the estimating function that formerly reported to Cannady.

David Epstein has been assigned as manager of financial control for the DC-10 program, reporting to Milling. Epstein will be located at the Lindbergh Field plant.

QC Section Slates Dinner Meeting

A recently developed computer system with voice answer-back capability will be interrogated by touchtone telephone during a dinner meeting of the San Diego section of the American Society for Quality Control at 6:30 p.m. Monday (Oct. 14) in the Bronze Room restaurant, La Mesa.

The RADAR system, developed by Rohr Corp. and Pacific Telephone Co., uses computers and an audio-response unit in automated data acquisition and retrieval.

Harry Goodsell, director of administration services for Rohr Corp., will speak.

The meeting is open to all interested Convair division personnel. Tickets can be obtained from ASQC boosters or by phoning C. L. Marks, booster chairman, ext. 2370 KM.

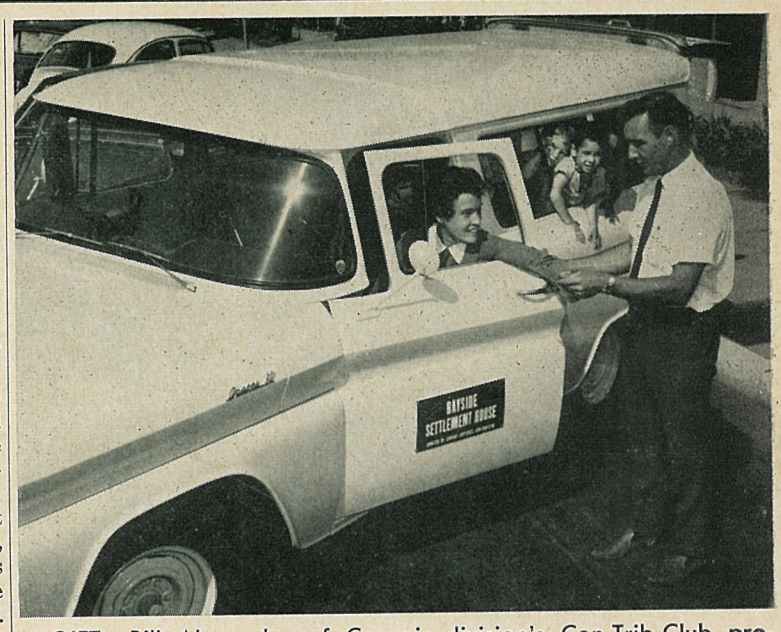
Speaker Scheduled For Wives' Luncheon

A representative from the Casa de Lopez Candle Shop in Old Town will be guest speaker at a Convair Wives Club luncheon Oct. 16 at Mission Valley Inn.

Mrs. John McIntyre and Mrs. Arnold Ramberg will be hostesses. Reservations should be made by Oct. 14 with Mrs. L. H. Allen, 583-2868, or Mrs. L. F. Klepach, 264-1013.

DAUGHTER EARNS COOKING HONORS

Kathleen Needles, 18, daughter of Gordon Needles, production control analyst in Dept. 059-4 at LF, won five ribbons for her seven cooking entries in the senior home economics division of the San Diego County Fair at Del Mar.



GIFT—Bill Alexander of Convair division's Con-Trib-Club presents slip and keys for carryall truck to Sister Anne Field of Bayside Settlement House. Con-Trib-Club purchased truck and refurbished it for donation to Settlement House.

Procurement Quality Engineering Records Top Cost Cut Record

Looking for cost reduction opportunities every day has become something of a way of life for employes in Convair division's procurement quality engineering Dept. 144-1.

The department—with an average of 38 employes—has been credited with $1,044,606 in cost reduction during the past 18 months. This figures out to more than $1,500 per employe per month—a saving equal to more than four times the department's total operating cost!

Cost reduction credited to the department this year through Aug. 30 totaled $524,059—more than the total for the entire year last year.

What's the secret?

R. J. Hendrickson, chief of procurement quality engineering, says part of the answer lies in a review of cards submitted by each employe daily that outlines each of the tasks he has performed.

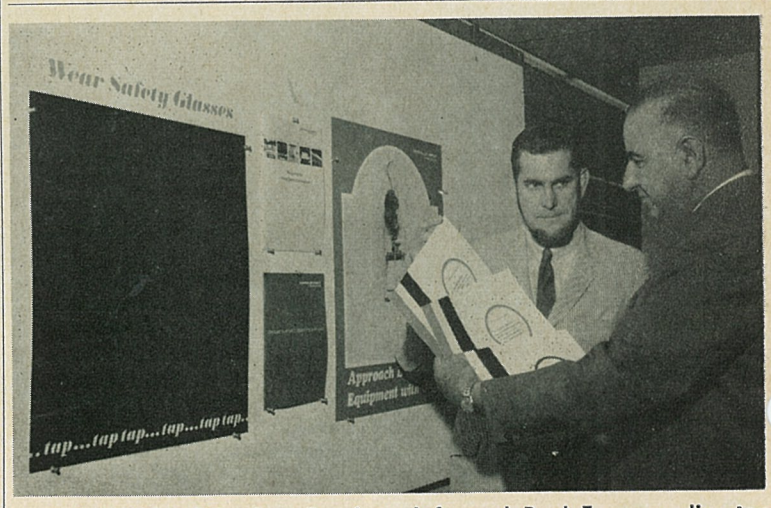
The preprinted cards are used primarily to secure data required for management and customer monthly reports and are "edge punched" to permit mechanical retrieval of 38 data elements for the reports.

As a "tack on" to the primary function, each employe is asked to add a brief note on the significance of his actions. If other than routine approval or processing was involved, the employe is asked to indicate the value or effect of his action.

Bill Lux, a senior reliability engineer in the department, scans the cards each day for potential cost reduction actions or opportunities. Further investigation and action frequently results, with the originator of the card processing appropriate cost reduction forms.

Hendrickson said the average employe, before the report system was implemented, often failed to recognize cost reduction action or potential.

"This way he's reminded of the importance of cost reduction on a day-to-day basis," he said.



ART ACCOLADE—Burt Brockett, left, and Paul Ferrara, director of engineering administration and services, look over award citations won for Convair division posters and brochures posted at left.

Posters, Brochures Earn Honors At Advertising Art Exhibit

Burton Brockett of Convair's art and editorial Dept. 126-0 received three awards for posters and company brochures Sept. 7 at the eighth annual Exhibition of Advertising Art in Phoenix, Ariz.

Entries from California, Arizona, Colorado, New Mexico and Texas were judged in the competition, sponsored by the Art Directors Club of Phoenix, with winners being feted at an awards banquet.

Brockett received a silver medal (second place) award for two safety posters. One, promoting use of safety glasses, had a solid black background with the "tap . . . tap tap . . . tap" of a cane inscribed across the bottom. The other showed a mouse approaching a trap and was labeled "Approach dangerous equipment with care."

Two distinctive merit awards were received for a "Preparing for deep space exploration" sales brochure and a "Convair is people, products and events" recruiting brochure.

The brochures, entered in the "company publications" division, were judged on total artistic content and layout.

Convair Plant 19's Picnic Draws 2,000

Convair Plant 19's first annual picnic at Missile Park attracted more than 2,000 employes, relatives and friends.

Activities included games, a treasure hunt, softball, free bingo, live music and dancing and a drawing for a nine-day "Vacation in Hawaii" for two. Winner of the drawing was A. D. "PeeWee" Ercole, an assembler who has been with Convair since 1941.



QUIET CONVERSATION—Judy Anderson, left, totally deaf Convair keypunch operator, carries on sign language conversation with Crystal Richards, her leadlady, as K. A. Kerr, supervisor of keypunch operations, looks on. Silent language has advantages for "across the room" conversation.

Soundless Talk

'Silent World' No Deterrent For Convair Keypunch Operator

Judy Anderson, a keypunch operator in Convair division's Dept. 101-6, and her leadlady, Crystal Richards, have a communications system that is unique at Convair's Kearny Mesa plant.

It has its advantages, too. They can converse across the room without uttering a sound!

Judy has been deaf since birth —and Crystal has become adept with the sign language of the deaf. They now "talk" with their hands about as rapidly as others do vocally.

The two first met in 1955 when both were at the Academy of Little Flowers Catholic boarding school in San Luis Rey, Calif. They were reunited three years ago when Crystal, after seven years at Lindbergh Field, was reassigned as a keypunch operator in Dept. 101-6 at KM.

Judy studied lip reading as a child in Saginaw, Mich., came to San Diego when she was 7, learned sign language from a neighbor when she was 12, and attended Kelsey-Jenney Business College before coming to work for Convair in 1961.

Crystal first learned the alphabet in sign language a couple of years ago so she could spell out words for Judy instead of write notes. Because of their ability to communicate, Judy was placed under Crystal's supervision when she became a leadlady earlier this year.

The two have become close friends, lunch together regularly and they and their husbands often share evenings out.

Judy's husband, Don Anderson, also is totally deaf and is a rivet machine operator for Rohr Corp. Crystal's husband is David A. Richards, a spare parts analyst in Convair's Dept. 513-0 at Lindbergh Field.

Judy and her husband have been married nine years and live in Clairemont. Their alarm clock flashes a light instead of ringing and their pet dachshund, Hans, lets them know when there's someone at the door.

Kenneth A. Kerr, supervisor of keypunch operations, thinks highly of Judy's work. "She's an excellent employe—a doll in every way," he says.

Automatic Drafting Machine Continues to Cut Expenses

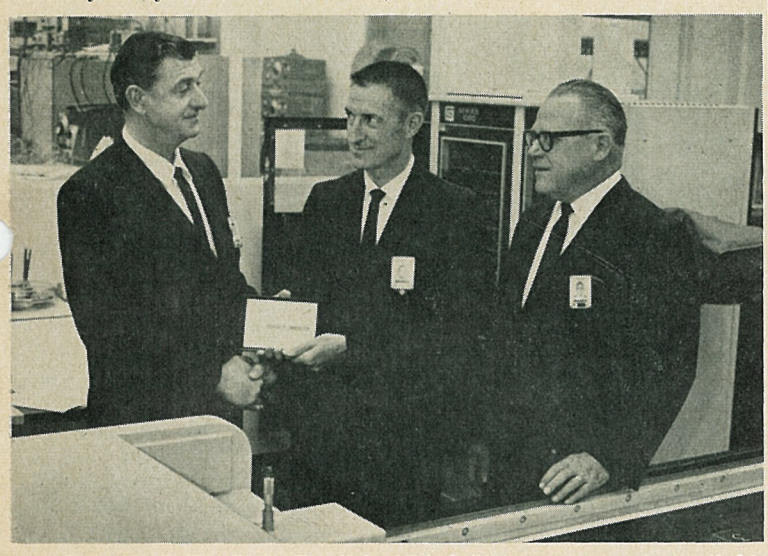
An automatic drafting machine (ADM), installed at LF in 1966, has brought cost savings of more than $83,000 annually, and recognition to E. A. Zivolich, LF loft lines group engineer.

Zivolich was recently presented with a cost reduction certificate by F. D. Applegate, LF director of product design, for Zivolich's implementation of the automatic drafting machine in bringing about the cost savings.

The machine, installed at cost of $151,700, is capable of "drawing anything that can be expressed in scalar values, or geometrically or analytically defined." Extremely fast and accurate, it can perform drafting tasks that would require days or weeks if done manually. It is operated by input from programmed tapes, or from the drafting machine's own computer.

Cost reduction brought about by Zivolich also results from his successful efforts to use ADM for jobs other than those originally planned. An example is use in printed circuit development.

Contract work for local companies as well as for other GD divisions has utilized ADM's slack times.



ACHIEVEMENT—E. A. Zivolich, LF loft lines group engineer (left), accepts congratulations and cost reduction certificate from F. D. Applegate, LF director of product design, and H. P. Williams, LF design support. Zivolich was instrumental in achieving $83,042 cost reduction through use of automatic drafting machine.

October Tourney Dates Set Ahead

CRA Golf Club's October tournament will be held this weekend (Oct. 12 and 13), instead of Oct. 19-20 as originally scheduled, at the San Luis Rey Country Club.

Starting times should be reserved by Friday (Oct. 11) by calling ext. 511 LF.

36-Handicap Golfer Wins Championship, Williamson Runner-up

Rudy Cruz, a 36-handicap golfer from LF Dept. 015-0, edged Pete Williamson of Dept. 551-4 at Cottonwood Country Club to take the CRA Golf Club's 1968 handicap plant championship.

Cruz was presented a complete set of professional golf clubs at an awards ceremony. Williamson, as runner-up, will have his $250 entry fee paid for the Andy Williams San Diego PGA Open.

A total of 296 CRA golfers competed in the championship over three weekends.

Flight winners going into second round of tournament play, in addition to Cruz and Williamson, were Al Reiter, Mark Pruitt, Lou Tornillo, Don Wallin, John Soltmann and Nick Kourbelas.

Reiter defeated Pruitt, Williamson edged Tornillo, Wallin beat Soltmann and Cruz won by forfeit over Kourbelas. Williamson then defeated Reiter and Cruz edged Wallin, both one-up, in the first round of the final day's competition to go into the championship play-off.

Wives Club Slates Halloween Dance

Convair Wives Club members and husbands will celebrate Halloween early with a costume party and dance at 6:30 p.m. Oct. 26 in CRA Clubhouse at Kearny Mesa.

Dinner, served on pie tin "plates" at 7 p.m., will include stew, hard rolls, apple pie and coffee. Dancing and card games will follow.

Cost is $1.25. Reservations should be made by Oct. 16 with Mrs. L. H. Allen, 583-2868; Mrs. C. R. Blust, 279-1775; Mrs. L. F. Klepach, 264-1013; Mrs. I. E. Whitbey, 283-8971.

Decorations are being handled by Mrs. Walter Dibblee Jr. and Mrs. Stephen Watson, entertainment by Mrs. Robert Browning, Mrs. Arnold Ramberg, Mrs. Archie Ellsworth and Mrs. Paul Brock.

Don O'Brien Doubles In Pistol Shooting

Don O'Brien was a double winner in CRA Pistol Club competition Sept. 22 when he took both Short National and Master Class events.

His 13Xs and 296 score were best among Master shooters and he fired 265 to win the Short National. Jim Halfacre was runner-up in both events. Bill Worthington won Expert Class.

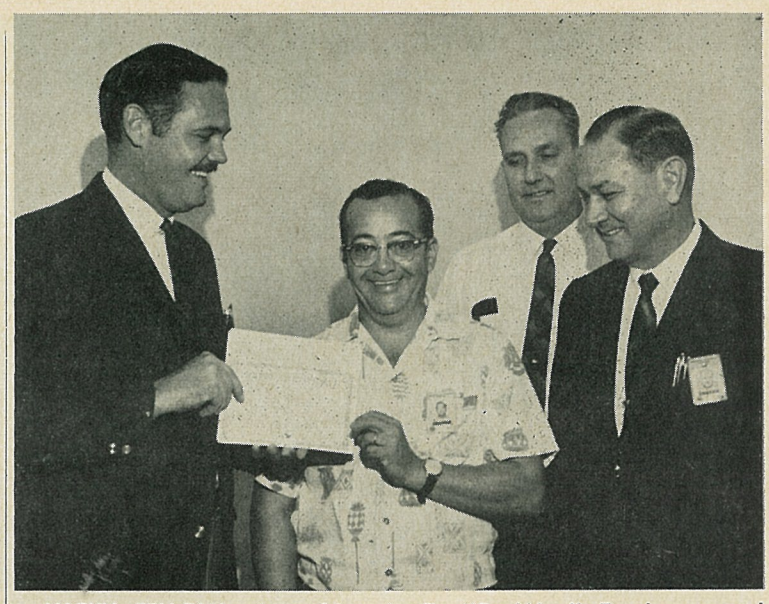
Based on aggregate scores of Short National matches, CRA Pistol Team for third quarter will be Halfacre, Ernie Kampmann, Warren Walker and Bill Dittmann.

Riders Will Gather At Officer's Club

CRA Riding Club members have scheduled a bingo and dinner get-together Oct. 12 at the Miramar Officer's Club. Barbara Doom, chairman, said the 5 p.m. party is for adult members only.

Another adult party is planned for Oct. 25 at CRA Clubhouse, 7 p.m. Halloween costumes are mandatory with prizes going to "funniest," "ugliest," etc. Mickey Underwood is chairman.

Last month's horse show drew 270 entries with Susie Harmer taking high point trophy for gymkhana. Gayla Washburn was equitation winner.



LUCKY FELLOW—Assembler A. D. "PeeWee" Ercole, second from left, sports big smile as he receives travel certificate from George Schmiedel, CRA supervisor, for nine-day "Vacation in Hawaii" for two. Ercole won trip in drawing at Plant 19's first annual picnic at Missile Park. Adding congratulations are J. T. Mitchell, Plant 19 bay assembly foreman, and Clyde Medearis, Plant 19 group foreman.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is Oct. 15. Call ext. 1071 LF or 3322 KM. All meetings are held in CRA Clubhouse unless otherwise noted.)

★ ★ ★

ADVENTURERS—Meeting Oct. 16, 7:30 p.m., slide program. Trip to Santa Clara in Sonora, Mexico, Oct. 19-20.

BADMINTON—Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BICYCLE CLUB—Lakeside, Mt. Helix ride, 7:30 a.m., Oct. 12. Leave from CRA Clubhouse.

BONAIR FLYERS—Meeting Oct. 15, 7:30 p.m.

BRIDGE—Duplicate bridge sessions each Friday, 7:30 p.m.

CAMERA CLUB—Salon judging of prints and slides of Miss Photogenic Contest, Oct. 20, 8 p.m., Photo Arts Bldg., Balboa Park.

COINEERS—"Old Timers Night" Oct. 16, 8 p.m.

DELTA DIVERS—Meeting tonight, Oct. 9, 7:30 p.m.

FISHING CLUB—Regular meeting Tuesday, Oct. 15, Gillespie Field Clubhouse. Potluck 6:30 p.m.; meeting 7:30.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Monday through Friday; 10 a.m. to 5 p.m. Saturday.

ICE SKATING—GD family skate night Tuesday, 6:15-7:45 p.m., Mission Valley Ice Arena.

MINIATURE RAILROAD—Operating sessions Saturdays, Sundays and holidays, CRA Missile Park.

MODEL HO RAILROAD—Work sessions each Tuesday, 7 p.m., CRA Missile Park.

PISTOL CLUB—Next shoot Oct. 13, 9:15 a.m., S.D. Police Pistol Range.

RIDING CLUB—Bingo and dinner party, Oct. 12, Miramar Officer's Club. Halloween party, Oct. 25, CRA Clubhouse.

ROCKHOUNDS—Meeting tonight, Oct. 9, 7:30 p.m.

SQUARE DANCE CLUB—Dance 8-10 p.m. each Thursday.

SPORTS CAR CLUB—Meeting tonight, Oct. 9, Convair executive dining room, Lindbergh Field.

STAMP CLUB—Meeting Oct. 10, 7:30 p.m.

WOMEN'S GOLF—Oct. 12 tourney at Cottonwood Monte Vista course.

Pheasant, Chukar Hunting Arranged

CRA has arranged for pheasant and chukar hunting at Pepper's Hunting Club, 10 miles east of Ramona on Highway 78. The season began Oct. 1 and runs through March 31, 1969.

George Schmiedel, supervisor of recreation, said employes using the area must have valid hunting licenses and be members of the CRA Hunting Club, which has a $3 annual membership fee.

There is a limit of three birds per hunter. Cost is $4.50 per bird for Hunting Club members and $5.50 for guests. Phone the CRA Clubhouse, ext. 1111 KM, for reservations or additional information.

Fishermen Slate Salton Sea Fry

A fish fry and potluck dinner at Salton Sea Saturday and Sunday, Oct. 12-13, is next on the menu for Convair's Fishing Club. Members will meet Saturday at the Red Hill Marina campground with the fish fry and potluck scheduled for 5 p.m.

A prize will be given for the largest fish caught and weighed. Those with boats having additional room are asked to share space. Everyone is to bring his own drinking water.

Coineers Schedule 'Old Timers Night'

CRA Coineers have scheduled an "Old Timers Night" at 8 p.m. Oct. 16 in the LF cafeteria. Members have been asked to bring old-time coin collectors as guests.

Lowell Lundberg, guest speaker, will discuss "Coin Exhibiting." Door prizes, a drawing and an auction are scheduled.

For information, phone Vince Bacon, ext. 1198 KM, or any club officer.

Adventurers Heading For Fishing Village

Out of the way Santa Clara (El Golfo) in Sonora, Mexico will be destination of CRA Adventurers during a weekend combination car-camp and four-wheel drive exploration of the area, Oct. 19-20.

Located north of the Gulf of California, Santa Clara del Golfo is a small Mexican fishing village surrounded on three sides by the Sonora desert.

Driving time is about six hours from San Diego and those making the trip are reminded to bring their own water and wood for campfire. Those driving four-wheel drive vehicles will go in caravan to Adair Bay, 35 miles south of El Golfo.

Trip leaders are Larry Lesh, 274-0865 and Joe Quijada, KM ext. 2746 or (home) 284-0883.

Lapidary Classes Given at Clubhouse

Lapidary classes for General Dynamics employes and family members are being given by CRA Rockhounds Club from 7 to 9 p.m. Mondays, Tuesdays and Thursdays and from 11 a.m. to 1 p.m. Wednesdays at the CRA Clubhouse at Kearny Mesa and from 7 to 9 p.m. Thursdays at Gillespie Field.

For information, call Ralph Steel, ext. 646 LF (nights), Hal Leppart, ext. 1704 LF (days), Fred Baugh, ext. 1446 KM (nights) or Jerry Halterman, ext. 2201 KM (days).

Hugh Wilsons Win Bridge Club Event

Mr. and Mrs. Hugh Wilson won CRA Bridge Club's monthly master point event Sept. 6 and the fall party special event Sept. 27. Mr. and Mrs. Bob Rustad won the weekly event Sept. 27.

All bridge players are invited to join the club for play at 7:30 p.m. each Friday in CRA Clubhouse at KM.

CYCLISTS PLAN LAKESIDE RIDE

CRA cyclists will pedal 50 miles to Lakeside Saturday (Oct. 12). Phone Cy Campbell, ext. 2056 KM or (home) 466-1881, for additional information.



BOMBER VERSION—FB-111A, loaded with fuel tanks and simulated weaponry, makes test flight from Fort Worth division.

Flight Testing Near For Bomber Version; New Engines Slated

FB-111A production aircraft No. 2, which will eventually be used to test the more powerful TF-30-P-7 engines, is slated to enter flight-testing at Fort Worth division momentarily.

The aircraft will be equipped with TF-30-P-12A engines, which will be modified to the P-7 configuration early in the aircraft's flight-testing routine.

FB-111A No. 2 will be flown by Fort Worth division test pilots during a 16-month Category I engine evaluation and development program. Some fuel-tank and weapons-separation tests will also be included.

Meanwhile, plans are being laid for testing of the SRAM (short-range attack missile) from the FB-111A.

F-111A No. 29 has been modified with SRAM hard points and pylons at Fort Worth and will be used in early weapons-bay and pylon-separation tests. Tests from No. 29 were slated to begin in October.

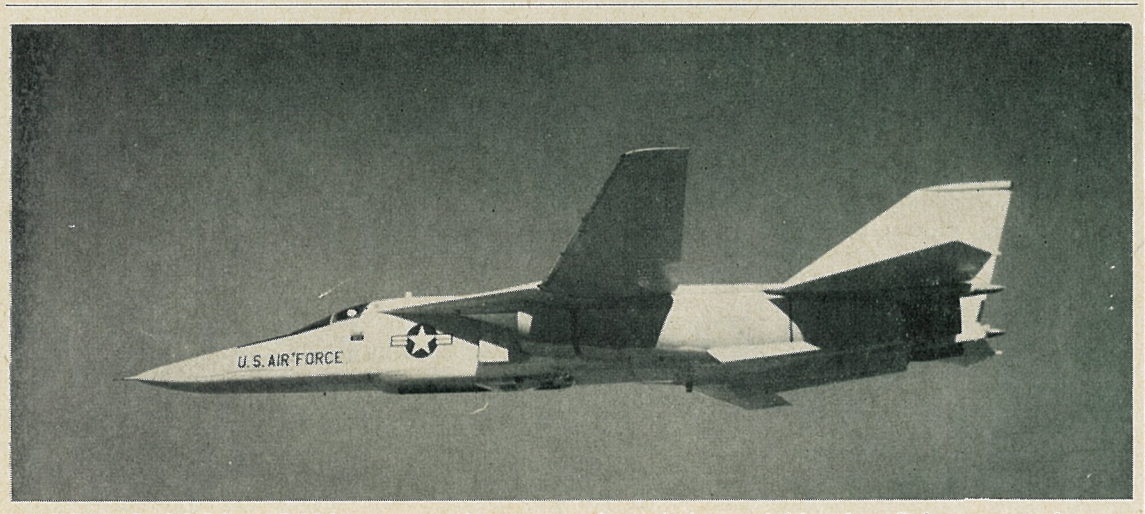
FB-111A No. 5 is also slated to be used in SRAM testing. It is scheduled for a 16½-month Category I program to investigate FB-111A/SRAM integration, environmental control, performance, and SRAM separation and launches. The aircraft will have P-7 engines.

Meanwhile, FB-111A testing continued at both Fort Worth and Edwards AFB, Calif.

FB-111A No. 1, the bomber which made its maiden flight in July, is being flown by Air Force in Category II tests at Edwards. However, the aircraft is slated to conduct Category I terrain-following-radar tests after instrumentation at Fort Worth in the near Future.

Testing of FB-111A No. 25, prototype for avionics equipment, continues at Fort Worth.

FB-111A No. 18, the structural prototype, is undergoing a 14-month Category I testing to investigate flutter, stability and control, performance, flight loads, dynamics response, maximum gross weight structural tests, and some tank/pylon separation tests.



LOOKING GOOD—RF-111A, reconnaissance version of the variable-wing fighter, recently completed successful testing program.

RF-111 Collects Radar Data During Flights Over Florida 'Combat' Range

The reconnaissance version of the F-111 has completed a successful flight-test program with a probable record-breaking effort.

During the latter days of testing, the plane completed six flights in seven days, totaling 19½ hours of flight time.

"This is excellent utilization of both aircraft and equipment," said M. J. Sherline, RF-111 project engineer. "It was a fitting climax to a testing program begun last December."

Since March, subsonic flights have been carried out over photographic and infrared-resolution targets and radar reflectors located at James Connally Air Force Base, Waco. Support of these operations at Waco was provided by B-58 IRAN program, under Gene Finch. Mel Post, chief of administrative services, was instrumental in coordination.

The "highly successful" flyovers at Connally were conducted at altitudes as low as 500 feet and as high as 35,000 feet during flight test operations.

Other missions have been carried out over Eglin AFB, Fla. where the RF-111A flew over the Eglin underbrush target area to collect radar data. The underbrush range simulates real combat ground conditions including convoys, ground targets, rocket launching sites and small villages.

Supersonic operations were conducted at the Holloman/White Sands Missile Range target area in New Mexico.

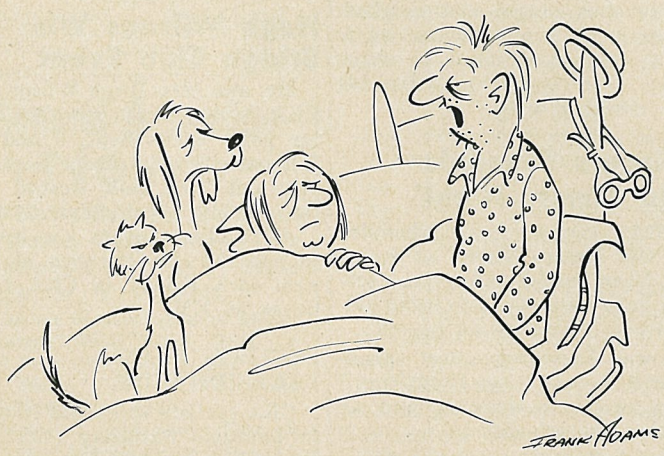
Most of the sensors of the RF-111A are proven hardware from other Air Force and Navy reconnaissance programs. They are operated through a Fort Worth division designed digital computer reconnaissance control system, which also can be used to test the sensors and cameras in flight or on the ground.

One of the advantages of the reconnaissance control and test set is that it automates the reconnaissance functions and helps to relieve the reconnaissance systems operator from numerous complex tasks.

Except for additional radomes and optical windows under the weapons-bay area, the reconnaissance version looks much the same as the F-111A fighter-bomber.

The primary air crew has been Neil R. Anderson, pilot, and Douglas C. Houston, flight-test engineer/reconnaissance systems operator. Maj. Thomas Davey, Air Force Flight Test Center, Edwards AFB, served as alternate pilot/reconnaissance system operator.

Norman B. Robbins is the program director; Oscar Wehmanen, chief project engineer; Sherline, project engineer; Charles Moser, systems technology project engineer.



"Be honest, now . . . wouldn't you rather serve me breakfast in bed, instead of havin' to look at me across th' table?"

Society Will Honor Pomona Division's Inspection Manager

Bryant E. Justice, Pomona division manager of inspection, will be honored at the 28th Annual National Fall Conference of the American Society for Nondestructive Testing. The four-day international session with nine speakers from six European countries joining top American experts opens Oct. 14 in Detroit.

The society's top honors for 1968 will be awarded at a banquet Oct. 16 to Justice and Dr. John E. Jacobs, executive director, Bio-Medical Engineering Center, Northwestern University.

Justice, a past president of the society, will receive the ASNT Gold Medal for his contributions to nondestructive testing through both industry and the society. ASNT's Achievement Award will be presented to Dr. Jacobs.

Be sure to use the ZIP code when addressing mail. It speeds up delivery!

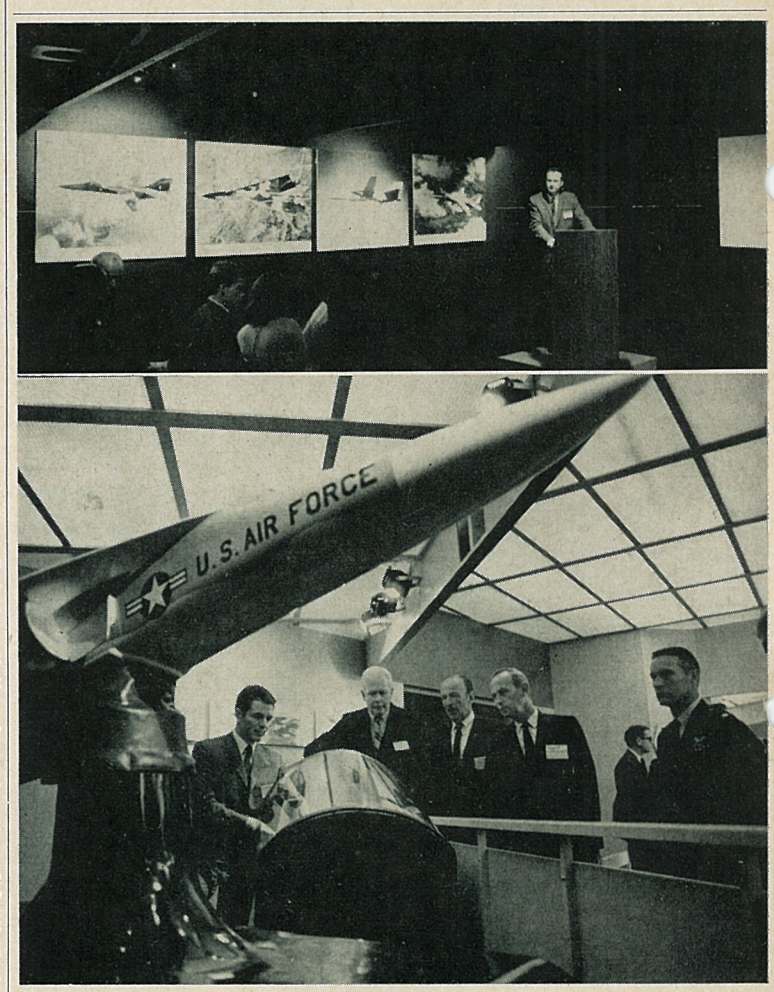
People Mobility

Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

J. Y. McCLURE, from Corporate Headquarters to Fort Worth division as vice president, quality assurance.

MATTHEW J. COLEMAN (1961) from Convair division to Pomona as project coordinator; **ALPHEUS J. GILLETTE JR.** (1951) from Convair to manager of engineering administration, Stromberg Datagraphics; **THOMAS D. GALBOS** (1966) from Convair to Pomona as wage and salary analyst; **DONALD N. HERKLOTZ** (1956) from Convair to Stromberg-Carlson, (Ardmore); **CLARK J. THOMPSON** (1956) from Electric Boat to senior buyer, Convair; **CHARLES E. HARGRAVE** (1960) from Stromberg-Carlson (Charlottesville) to S-C, Rochester as manager of off-site industrial relations and personnel practices; **GERALD S. HASMAN** (1955) from Stromberg-Carlson, Rochester to manager, product lines, S-C (Camden); **DONALD D. BECHTEL** (1958) from Convair to Fort Worth; **ELLIS W. JACKSON** (1959) from Convair to Fort Worth in systems technology; **MEL WEST** (1967) from Convair to Fort Worth; **WILLIAM N. TAYLOR** (1956) from Fort Worth to Convair as senior design engineer; **JULIUE JANCSI** (1955) from Electronics, San Diego to design engineer, Convair; **G. F. HOBBS** (1963) from Electronics, San Diego to engineer, Stromberg Datagraphics; **LEE R. LISAK** (1958) from Convair to Pomona as project coordinator; **THOMAS G. EXLEY** (1962) from Electronics, Rochester to salary administrator, Pomona.

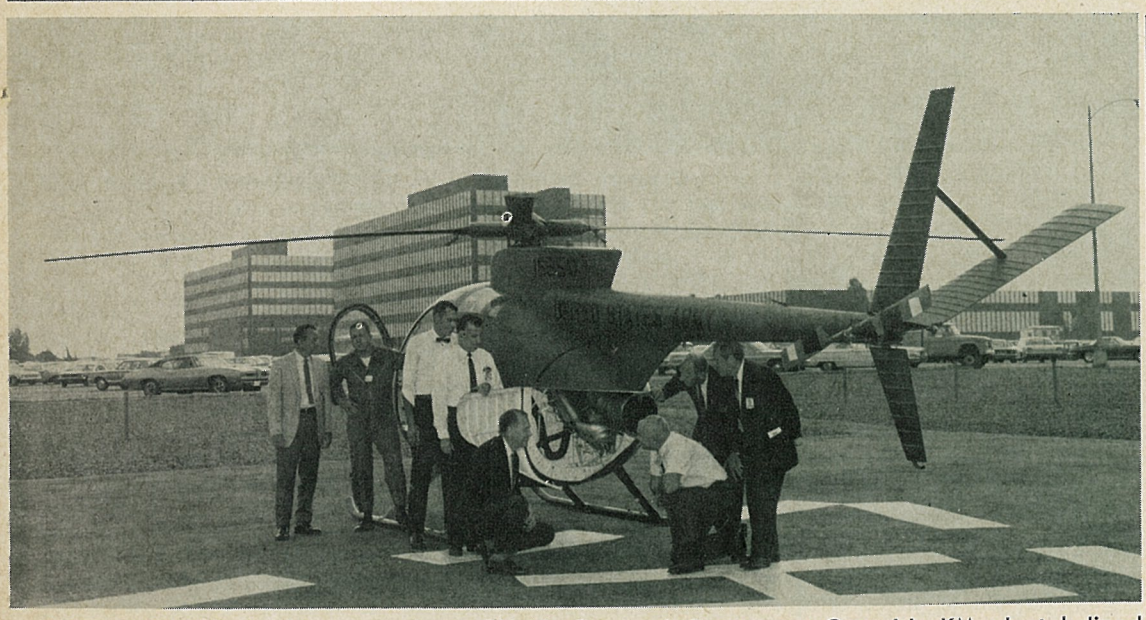


AT WASHINGTON — A broad cross-section of General Dynamics was offered guests attending Air Force Association's annual meeting last month in nation's capital. Focal point of GD exhibit was F-111 status report and briefing, attended by nearly 1,200. Working scale model of F-111, remotely controlled from nearby cockpit, simulated wing-sweep, speed brake etc.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 22 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, October 23, 1968



COPTER CHECK—Looking over Army OH-6A Cayuse helicopter at Convair's KM plant helipad are, from left, Don Evanson, Convair program manager; Capt. Donald Merritt, pilot; J. J. Schiller, H. L. Williams, M. M. Goodhart, G. C. Landy, Bud Darling, Mike Alianelli.



INSPECTION LINE—Checking detail parts for helicopter program at KM factory are, from left: Dwight Bradford, Hughes inspection representative; Convair Dept. 143-1 inspectors Helen Arrechea, Jim Corbett, Marian Franks; Bud Buffat, fabrication and tooling inspection supervisor.

Hanink Now Manager For Electronics Div.

Herman H. Hanink has been appointed general manager of the Electronics division of General Dynamics.



Herman Hanink

Hanink had been general manager of the Electro Dynamic operations of the division in Avenel, N. J. He is moving to division headquarters in Rochester, N. Y.

Parker Painter Jr., general manager of the division since July, 1966, has joined General Dynamics Corporate staff in New York on special assignment. Painter and Hanink report to John J. Graham, Corporate electronics group vice president.

The Electronics division is a major supplier of communication, undersea warfare, navigation, data handling, radar, telemetry and instrumentation systems and electric motors to the armed

(Continued on Page 6)

$15,408,000 Centaur Contract Awarded

Convair division has been awarded a $15,408,000 follow-on contract from NASA Lewis Research Center for management and engineering services for the Centaur launch vehicle program through September, 1969.

The contract covers design, analysis, reporting, computer studies, reliability, systems analysis and range and launch requirements support.

Jack H. Edwards, chief of contracts for launch vehicle programs, said funding also is included for mission-peculiar-design to support Orbiting Astronomical Observatory, Applications Technology Satellite and Mariner Mars missions and for design and analysis studies for the proposed Improved Centaur and Atlas SLV-3X booster.

Copter Parts Task Continues

Convair division factory personnel by the end of the year will have produced more than 800,000 detail parts and assemblies and manufactured or altered more than 1,500 tools for OH-6A Cayuse helicopters under subcontracts from Hughes Tool Co.

The division this month was awarded a follow-on contract for 342 ship sets of approximately 50,000 detail parts, with production to run through the first quarter of 1969.

Convair completed a 400-ship-set order of 83,727 detail parts for the Cayuse last month. A total of 688,400 parts were produced under previous contracts.

The Cayuse, a four-rotor craft powered by a 250-hp jet engine, is used extensively in Viet Nam in observation, fire support, troop transport and supply missions.

Assembly of the helicopters is accomplished at Hughes' Rose Canyon facility in San Diego and

(Continued on Page 4)

Electronics-SD Club to Meet

Parker Painter Jr., former general manager of Electronics division now on special assignment at Corporate Headquarters, will address the Electronics-SD Management Club Oct. 30 in the Tiki Room of Town and Country Hotel.



Parker Painter

A graduate of MIT in 1949 with a bachelor's degree in electrical engineering, Painter was a founder of Dynatronics, Inc., now a part of the Electronics division, producing advanced telemetry equipment. Prior to joining General Dynamics in 1966 he held senior engineering and management positions with Radiation, Inc., and Melpar, Inc.

Tickets priced at $5 includes top sirloin steak dinner.

"Attitude adjustment" begins at 5:30 p.m., dinner at 6:30.

VE Team Honored For F-111 Savings

A Convair division value engineering team has won a nationwide Air Force cost reduction award for savings of $660,248 in fiscal 1968 on the F-111.

Col. Charles Merz, Defense Contract Administration Services plant representative at Convair, Jack Bowers, Convair general manager, and Ray Schulte, F-111 senior project engineer, accepted the award on behalf of the 18-member Convair team at the fourth annual Air Force Industry Cost Reduction Workshop and Awards banquet Oct. 3 at the International Hotel in Los Angeles.

Award was based on savings realized by using low-draft forgings instead of castings on F-111 fuel tank assemblies. The procedure resulted in a weight reduction on each 600-gallon fuel tank of 44 pounds.

Actually, a savings of $1,915,000 has been projected, based on firm and likely business at the time of implementation.

Five of the engineers on the team presently are stationed at McDonnell Douglas Corp.'s Long Beach plant, where they are assisting with design work on the DC-10 fuselage program. They were presented individual awards by H. P. Williams, chief of design support. Receiving certificates were W. J. Wallace, E. T. Hansard, D. E. Roberts, W. E. Gibb and S. D. Zullo.

Lindbergh Field members receiving similar awards from Dan Applegate, director of product design, were W. S. Stroud, program manager of F-111 aircraft elements; Schulte, Leon Moore, Keith Williams, Frank Signorelli, Jim Spurgeon, Ed Benson, Jim Howland, George Spanovich, F. J. Fox, K. F. Horn, Larry Peterson and Max Yale.



AIR FORCE HONOR—Present at fourth annual Air Force-Industry Cost Reduction Workshop and Awards ceremony at which Convair received award were, from left, Col. Charles F. Merz, Defense Contract Administration Services plant representative at Convair; Hon. Harold Brown, Secretary of the Air Force; Ray Schulte, senior project engineer; Jack L. Bowers, Convair general manager.



ON THE TEAM—Convair division's Dan Applegate, right, director of product design, shows cost savings award certificate to W. S. Stroud, program manager of F-111 aircraft elements. Others on Convair team sharing honor, from left, Leon Moore, Keith Williams, Frank Signorelli, Jim Spurgeon Ed Benson, Ray Schulte, Jim Howland, George Spanovich, F. J. Fox, K. F. Horn and Larry Peterson. Another member, Max Yale, was absent when picture was taken.



CONGRATULATIONS—Five members of Convair division team earning Air Force award are presently stationed at McDonnell Douglas Corp. Seated, from left: W. J. Wallace, E. T. Hansard, D. E. Roberts and W. E. Gibb, (S. D. Zullo was absent when picture was taken.) Accepting congratulations from MDC's T. D. Mone, right, director of major subcontracts, is Convair's H. P. Williams, chief of design support, who distributed certificates to MDC-based personnel.

W. J. Dawsey on Loan For a Year In 'Hard-Core' Job Placement

W. J. Dawsey, Convair Dept. 202-2 industrial engineer, has been placed on one-year loan to the National Alliance of Businessmen (NAB) as manager of recruitment and job placement for hard-core unemployed in the San Diego area.

The NAB administers the President's JOBS (Job Opportunities in the Business Sector) program which reimburses business and industrial firms for "extraordinary" training costs for hard-core unemployed being hired and given classroom and on-the-job training.

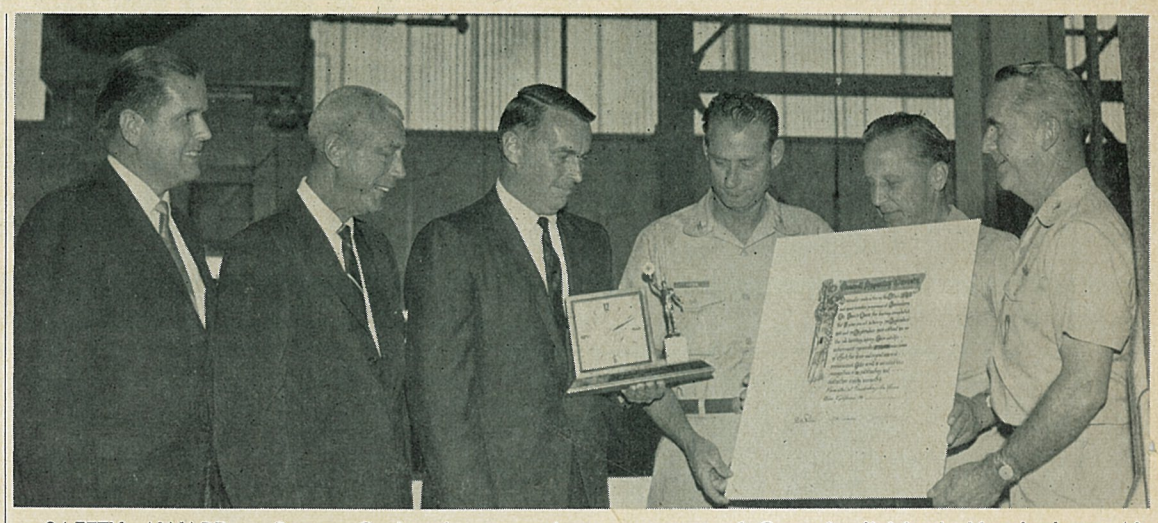
Dawsey said he was gratified to have been selected by Convair for the year's assignment. "I have had a long-standing conviction that this national problem can be resolved only through efforts of the private business sector, where six of every seven jobs and job opportunities are found," he said.

Following orientation in Washington D.C. and San Francisco, Dawsey during his first week of contacting business and industrial firms in San Diego County obtained pledges for employment and training of 273 individuals certified as "hard-core unemployed" by the California Department of Employment.

'Travelers' Spanish Course to Start

Clairemont Adult High school is offering a course in Spanish beginning Monday, Oct. 28 directed toward the traveler who wants to acquire basics. The class will meet from 6:30-9:30 p.m. each Monday and will be taught by Jim Hardison.

There is no charge. Registration can be made at the first class session or by calling Clairemont Adult High school, 274-3422.



SAFETY AWARD — Roger C. Lynch, operations manager of Convair division's Vandenberg Air Force Base facility, receives trophy and Air Force scroll honoring group's safety record of five years without disabling injury. From left, Grant Hansen, vice president, vehicle launch program; John Hopman, chief safety engineer; Lynch; Col. J. M. Vivian, chief of staff, 1st STRAD; Col. B. G. Parks, commander Detachment 1, AFCMD; Col. O. R. Haney, commander 6595th ATW.

Bowers Urges Support For Campus Funds

Jack L. Bowers, Convair division general manager, is serving as chairman of the San Diego Citizens' Committee for Proposition 3.

Proposition 3 calls for issuance of $250 million in bonds for construction on campuses of the University of California, the California state colleges and certain urban school districts.

Passage of the bond issue would bring more than $36 million to UCSD and San Diego State College for medical school, oceanographic laboratory, hospital and classroom construction.

"Our community, more than most, depends on trained minds," Bowers said. "We require a continuing source of superbly educated persons — scientists, executives, teachers and doctors.

"We are unusually fortunate in having campuses of both the University of California and California State College system here to carry on the major role in producing these individuals. It is important that we keep both campuses strong."

Bowers credited national reputations of the two campuses with attracting new industry to San Diego and bringing millions of research dollars into the community.

He said oceanography, already involving some 80 local industries, would be strengthened through expansion of facilities at Scripps Institution of Oceanography and called development of the UCSD medical school and hospital, both to be funded by Proposition 3, a "must" for all San Diegans.

San Diego State College has 22,000 students this year and will have more than 28,000 qualified applicants in less than five years.

"The college is already full," Bowers said. "Without more classrooms, our oldest four-year campus will have to turn away students within two years.

"I feel it is imperative that Proposition 3 be approved by the voters next month."

Candidates Appear For Plant Visits

Two U.S. Congressmen and three other Congressional candidates in the Nov. 5 general election are visiting Convair division to meet with Jack Bowers, general manager, and talk with employes during lunch hours at Kearny Mesa and Lindbergh Field cafeterias.

Tom Lenhart was guest of the division Oct. 3, Rep. Bob Wilson on Oct. 10 and Mike Schaefer on Oct. 18. Rep. Lionel Van Deerlin will be present tomorrow (Oct. 24) and Don Lindgren Nov. 1.

This is the seventh year for candidates for key federal offices to make in-plant visits. Ray Blair, assistant to the general manager, said the program has been well accepted by employes and is "deeply appreciated" by candidates.

Convair Colony at Vandenberg In Sixth Disability Free Year

Five years or 5½ million man-hours without a disabling injury!

That's the enviable record compiled by Convair employes at Vandenberg Air Force Base and one for which they were honored in recent ceremonies at the aerospace facility.

Accepting congratulations and awards from both Convair and the Air Force was Roger C. Lynch, Convair's operations manager at VAFB. He received a clock-trophy award from Convair's John Hopman, chief safety engineer, and a color scroll citing the achievement from Col. O. R. Haney, commander 6595th Aerospace Test Wing.

More than 200 Convair employes attended the presentation. Lynch gave the principal address. He commended employes on their outstanding safety record, attributing much of the success to Don Fagan, who, as operations manager at the time, launched the safety campaign that has proved so successful.

The campaign utilized extensive use of signs, yellow flags, check inserts, conferences and other safety reminders, including introduction of teaser posters featuring the "Four Little Imps—Improvising, Impatience, Impulsiveness and Impunity."

Fagan, Convair's Kearny Mesa plant factory manager, attended the presentation. Other honored guests were Grant Hansen, vice president of launch vehicle programs; Col. J. M. Vivian, chief of staff, 1st Strategic Aerospace Division, and Col. B. G. Parks, commander Detach. 1, Air Force Contract Management Division.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Oct. 16 and Oct. 31.

Thirty-year: Dept. 019, C. M. Bissell; 143, J. S. Curtis; 400, D. A. Pearce; 420, R. Combs.

Twenty-five-year: Dept. 001, E. W. Fenwick; 027, A. W. Young; 057, W. C. Robinson; 195, H. B. Rogers; 250, C. A. Lager; 507, C. C. Gordon; 566, J. C. Hooper; 761, O. L. Carpenter, T. J. Oliver, C. E. Stayer.

Twenty-year: Dept. 027, R. Gann; 057, W. M. La Fleur; 130, Ida S. Hunt; 149, W. H. Dunlap Jr.; 191, J. Greenwald; 401, R. F. Lorch; 518, Priscilla W. Creech; 833, R. A. Cilstrap; 835, C. C. Partain; 964, G. L. Austin.

Fifteen-year: Dept. 001, S. Mazzilli; 059, G. A. Hillis, H. R. Moline; 101, A. B. Hunter, R. F. Perkis; 113, M. R. Woodard; 131, J. E. Royle; 143, R. L. Lucas; 144, L. G. Menches Jr.; 149, P. C. Godfrey; 250, A. L. Gaddy, Ella D. Heathman, J. Orton; 401, C. H. Fenstermacher; 403, W. E. Lippert Jr.; 454, C. B. Pierce; 508, L. R. Humphrey; 532, E. A. Kops; 595, Margaret A. Herring; 758, C. J. Abernathy; 820, Mary C. Fink; 835, R. W. Ballard, J. S. Scalisi; 954, T. J. Sullivan.

Ten-year: Dept. 019, P. Lo Coco; 131, C. E. Bowers; 059, A. E. Andreas; 101, Hazel Smit, C. O. Reib; 105, Jean Szewczyk; 144, E. C. Gordon; 146, E. D. Wilson; 170, E. J. Landauer, C. A. Otte, R. Roetter; 202, B. N. Randolph; 250, Kathleen E. Canaan, Evelyn C. Smithson; 400, L. Marie Lance, J. L. Obermuller; 460, W. P. Hentz, G. D. Ward; 508, S. B. Cochran; 533, A. E. Mayes; 565, Barbara A. Dill; R. E. Qualls; 731, S. A. McGowan; 732, L. E. Rossi Jr.; 733, W. J. Horton; 780, J. A. Gaspar; 780, P. Hagg; 840, June C. Campbell; 842, Eleanor B. Connelly; Dept. 962, J. M. Rager; 979, C. L. Wadding; 985, J. S. Bishop, M. F. Tooley.

ELECTRONICS

Fifteen-year: Dept. 614, H. C. Simer; 713, R. Mungcal.

Ten-year: Dept. 581, H. Honchor.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Monday, Nov. 4, 8 a.m. for 1st shift. Tomorrow, 4:30 p.m. for second shift.

Lindbergh Field: ext. 491, Bldg. 14 auditorium, Monday, Oct. 28 and Nov. 4, 8 a.m. for 1st shift. Today, Oct. 23, 4:30 p.m. for second shift.

PROFESSIONAL / TECHNICAL

PROGRAMMED SELF-STUDY — A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 5 p.m., ext. 1931 KM.

Deaths

CONVAIR

CEARLEY—Charles R., Dept. 967-7, died in aircraft crash Oct. 8. Survivors include wife, Maxine; daughter, Karen Marie; son, Charles Nathan.

HANDWERKER—Benjamin J., Dept. 202, died Oct. 2. Survived by wife, Celia, and two sons.

ROLSER — Harold R., Dept. 732, died Sept. 28. Survivors include wife, Marjorie, son Gene, and stepdaughter, Mrs. Melody Smith.

SMITH — Laurel P., Dept. 020, died Oct. 4. Survived by wife, Wyone, (Dept. 780), three sons, Ken, James and Dale, and three daughters, Madeline, Carolyn and Laurel.

Awards

CONVAIR

Employe Suggestion awards aproved for the week ending October 4.

Dept. 143, F. A. Baugh, $86.30; 401, B. Behrend, $56.10; 027, L. Castro, $30.00 (two awards); 143, D. G. Clark, $15.00; 027, R. E. Cloud, $93.30; 130, J. R. Cluck, $15.00; 143, J. Doyle, $15.00; 143, D. A. Falls, $15.00; 027, B. F. Frey Jr., $110.90; 250, A. L. Gaddy, $15.00; 250, B. L. Gammon, $54.40; 142, O. W. Hensley, $15.00; 001, T. R. Iddings, E. C. Mackey, $7.50 each (joint award); 524, A. A. Keen, $15.00; 401, R. F. Lorch, F. Morales, $7.50 each (joint award); 144, W. G. Lux, $29.90; 001, B. Martin, H. G. Mondy, W. A. Swanson, $5.00 each (joint award); 019, D. E. McCarron, $15.00; 401, R. A. O'Connor, $22.30; 780, B. M. Robbins, $30.00; 149, C. F. Stebbins Jr., $15.00; 149, J. F. Taylor, $15.00; 045, F. J. Vigliaturo, $15.00; 016, A. J. Winner, $204.40; 149, S. Witkoff, $47.40.

Employe Suggestions awards approved for the week ending October 11.

Dept. 059, T. A. Anderson, $15.00; 759, D. D. Ash, $66.70; 031, R. R. Atkinson, $15.00; 962, C. W. Aulgur, $51.80; 731, L. W. Ayers, T. G. Stephan, $7.50 each (joint award); 544, T. L. Bartley, $15.00; 985, S. W. Botta, $59.50; 963, B. J. Campbell, $474.30; 143, M. V. Downing, L. A. Weeks, $41.75 each (joint award); 962, R. T. Fox, $15.00; 951, L. E. Grimes, $87.40; 001, J. H. Hammer, $16.70; 979, H. S. Hufham, $15.00; 059, B. W. Jones, $825.40; 508, B. D. Just, $148.40; 953, J. F. Kelly, $15.00; 142, A. A. Lock, $161.20; 001, E. C. Mackey, $15.00; 141, F. Mejia, $33.30; 049, W. C. Pahl, $15.00; 130, C. P. Paularena, $15.60; 015, W. E. Reader, $80.50; 507, J. R. Richard, $15.00; 015, L. E. Rollins, $15.00; 250, W. Russ Jr., $15.00; 979, F. M. Russell, $30.00 (two awards); 001, C. E. Schultz, $15.00; 780, E. W. Way, $46.40; 027, M. J. Zaragoza, $16.60.

Invention Disclosures

CONVAIR

BATTLE — S.D., Dept. 551, J. E. LEIB, Dept. 509. Cathode Ray Tube Display Synthesis.

BOND — W. H., Dept. 570. Band Engine.

CHLARSON—M. D., Dept. 579. Lightweight Concrete Structures.

GREEN—E. D., Dept. 491. Induction/Conduction Heating System for Diffusion Bonding.

HUJSAK—E. J., W. J. KETCHUM, Dept. 952, J. S. NUDING, Dept. 533. Low Cost Booster - Monopropellant Reactor.

KEIM—A. B., Dept. 250. Continuity Tester.

KING—A. W., Dept. 761. Thermo Dip Seal Removing Tool.

ROLLA—C. P., Dept. 491. End Mill Inspection Tool.

TREADWAY—D. G., Dept. 572. Electrochemical Etch Marking Fluid.

WIANT—H. R., Dept. 572, E. H. WRENCH, Dept. 596. Torsionally Stiff Deployable Boom.

Rider-Driver

CONVAIR

RIDE WANTED — From Main St., Lemon Grove to Lindbergh Field plant, 7 a.m. to 3:30 p.m. shift. Phone Mike Irvine, ext. 625 or (home) 463-4952.

RIDE WANTED — From Clairemont Quad to Lindbergh Field plant, 7 a.m. to 3:30 p.m. shift. Phone Maggie, ext. 688.

RIDE WANTED — From Linda Vista Road near Genesee to Plant 19, 4:30 p.m. to 1 a.m. shift. Phone Joe Roman, 277-2593.

RIDE WANTED — From Poway to Lindbergh Field plant, 7:30 a.m. to 4:30 p.m. shift, will wait until 4:45 p.m. Phone Beverly Woffinden, ext. 2031 or (home) 748-3884.

RIDE WANTED — From Euclid and University to Kearny Mesa, 7 a.m. to 3:30 p.m. shift. Phone Evelyn Hansen, ext. 2201 KM or (home) 282-1478.

RIDE WANTED—From Carlton Hills, Santee, to Kearny Mesa plant, 8 a.m. to 4:45 p.m. shift. Phone Neal Bennett, ext. 1147 KM or (home) 448-3347.

Births

CONVAIR

MORIN—Lisa Jean, 7 lbs. 13 oz., born Oct. 15 to Mr. and Mrs. Robert Morin, Dept. 511-8.

TIERNEY — David, 7 lbs. 13½ oz., born Oct. 3 to Mr. and Mrs. Frank E. Tierney, Dept. 400.

Personals

CONVAIR

We wish to thank our friends at Convair for the love and comfort we have received from the many cards, flowers and lasting memorial to the Cancer Fund in honor of our son Gregory.

Mr. & Mrs. Clyde Glasson and family Dept. 531-2.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N. Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

Q—I started at Convair in December, 1941, later served two years in the Armed Forces, returned to Convair and have kept up my seniority to the present. I understand that in 1970 a retirement plan for hourly will go into effect with points for age and time worked. Does my time in the Armed Forces count as time worked?

A—You will be allowed continuous service credit for the time in the Armed Forces, providing you complied with legal requirements as to re-employment and were re-employed. Employe services, ext. 2328 KM, can answer specific questions.

★ ★ ★

Q—Why don't we have a policy about miniskirts and enforce it? I feel a decent length should be worn, not six or eight inches above the knee.

A—Company policy provides: "Wearing apparel or appearance which invites attention detrimental to work efforts, or is unsafe, shall be deemed inappropriate. Supervisors will ensure employes adhere to these minimal regulations."

★ ★ ★

Q—I owe money on medical bills for my growing family. I have a good deal in the sick leave accumulation plan. Is there any way I can use this to pay doctor bills?

A—Not under the present plan. A withdrawal from your sick leave account while you are still employed by Convair can be made only to cover pay lost because of sickness or injury or for hardship resulting from a death in your immediate family.

★ ★ ★

Q—Would it be possible to have a U.S. Mail box outside Gate 10 at Kearny Mesa?

A—Unfortunately no. As the gate is closed daily 8:30 a.m. to 3:30 p.m. the anticipated mail volume would be insufficient to justify a pickup.

★ ★ ★

Q—Why can't hourly employes go back to receiving unused sick pay in a lump instead of it being banked, as it is now?

A—The Sick Leave Accumulation Program is designed to compensate personnel who are absent due to sickness or injury. Sick leave pay is not intended as a means of increased compensation, but is a method of assuring that employes who have sufficient sick leave in the bank will not lose wages when a serious illness or injury occurs.

Senator Sees For Self As He 'Wrings Out' F-111

"I taxied out, rolled it to full throttle, took off in a remarkably short distance, and quickly climbed to altitude.

"For the next two hours, climbing as high as 40,000 feet, I wrung it out: hitting speeds above Mach 2 with the wings sharply swept; trying out the fantastic avionics systems of the airplane, including its terrain-following radar, and making several simulated target runs.

"Landing, it floats in like a ballroom rather than hitting like a rock, as most fighters do. As I told reporters after the hop, the F-111 has excellent handling and maneuverability at all speeds. It performs every mission beautifully."

Senator Howard W. Cannon of Nevada, member of the Senate Armed Forces Committee, used these words to describe his flight in an F-111A from Nellis AFB. His article appeared in the September issue of "Data."

Senator Cannon, a World War II fighter pilot and reservist, praised the F-111A's performance.

"I discovered for myself," Senator Cannon said, "that what the F-111 can do is fly farther, faster, with a bigger payload and with greater accuracy than any other combat plane.

"The ships are proving this accuracy day after day, dawn to well after dark, in swift target runs over uninhabited land . . . where the civilians won't be bothered by the sonic booms."

Senator Cannon called the F-111A's terrain-following radar system "fantastic."

"On the delivery flight of the first production F-111A . . . to Nellis AFB — a distance of 1,047 miles — the pilot took off, set the TFR to maintain a constant ground clearance of less than 1,000 feet, and then folded his arms," he said. "The airplane flew itself all the way, and the precision of its navigation system kept his F-111A within yards of each checkpoint.

"As he approached Nellis, the pilot unfolded his arms and made a routine landing, after a very un-routine flight. . . . While other aircraft have radar that can automatically avoid large land objects . . . the F-111A is the only machine that moves up and down with every slight wrinkle in the earth's crust.

"It is ideal for a high-speed run on an enemy target at treetop level. I tried a number of TFR runs.

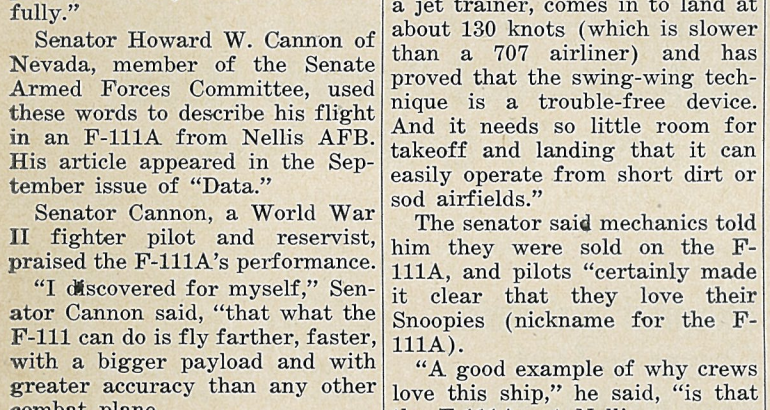
"In the cockpit," Senator Cannon wrote, "I proved to myself that it can fly slower and faster than any other fighter-bomber in the world, is as easy to handle as a jet trainer, comes in to land at about 130 knots (which is slower than a 707 airliner) and has proved that the swing-wing technique is a trouble-free device. And it needs so little room for takeoff and landing that it can easily operate from short dirt or sod airfields."

The senator said mechanics told him they were sold on the F-111A, and pilots "certainly made it clear that they love their Snoopies (nickname for the F-111A).

"A good example of why crews love this ship," he said, "is that the F-111As at Nellis . . . were averaging 60 hours a month in the air — a high rate of utilization for an ordinary aircraft and unbelievable for something as complex as this ship."

Senator Cannon said he "discovered its accuracy in ordnance delivery is much better than anything the U. S. now possesses." He also praised the aircraft's reliability and maintainability features, and its escape module system.

"As far as the pilots who fly the F-111 are concerned," the senator wrote, "they made it quite clear to me that they have a great deal of confidence in it and want to continue testing it against the enemy both as a bomber and as a fighter."



FLAWLESS FLIGHT—Sen. Howard W. Cannon of Nevada, member of Senate Armed Forces Committee, prepares for take-off in F-111A with Lt. Col. James Randall of Nellis AFB.

DC-10 Tooling Gets Under Way; First Deliveries Set For 1969

Progress on Convair division's DC-10 fuselage task moved ahead this week with completion of the first basic tooling structures and start of plaster shop work.

Second status presentation on Convair plans will be made to the McDonnell Douglas Co. at its Long Beach plant by Jack Hurt, program manager, and Joe Penner, program production engineering representative.

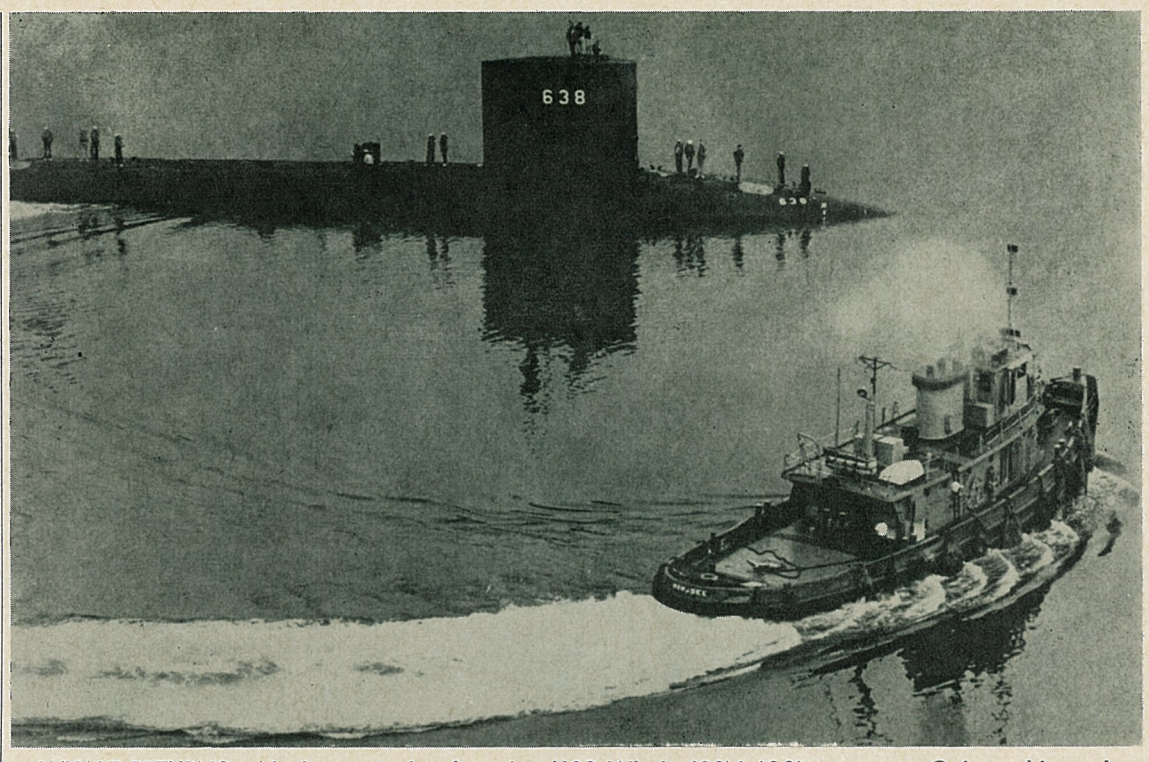
A continuing feature of the presentations will be color slide sequence photos, showing development of all program phases.

The complex production engineering task calls for innovations in building and transporting the huge tooling structures. Sections for the DC-10 fuselage will be approximately 20 feet in diameter.

Several basic tooling structures already have been finished in Bldg. 2 at LF and others will be completed soon. Plaster shop work started last week in Bldg. 7 with initial production of master forms for skin panel sections.

First fuselage sections are scheduled for delivery by late 1969. Complete sets are scheduled for production at a rate of five per month in the latter part of 1971, increasing to eight per month the latter part of 1972.

Be sure to use the ZIP code when addressing mail. It speeds up delivery!



WHALE RETURNS—Nuclear attack submarine USS Whale (SSN-638) returns to Quincy shipyard as tug maneuvers for docking following three-days sea trials. Whale was commissioned Oct. 12.

Stromberg-Carlson Helps Improve TV For Outlying Communities

In an era bursting with challenging telecommunications developments, few have generated more interest than the deceptively simple idea of using strands of coaxial cable to deliver television signals via community antenna television.

CATV originally helped the viewers in outlying areas to receive TV signals not otherwise available, but some cities today have this problem, too. Steel and glass skyscrapers are just like mountain ranges in hindering good reception.

Where cable television systems once were a small town phenomenon only, they now exist in the heart of New York, San Francisco, Los Angeles, San Diego, Cleveland, and other large cities.

Stromberg-Carlson has been participating in the community antenna television (CATV) industry since 1965. Most recently, the effort has been centered in the Stromberg-Carlson Credit Corp. where Marvin Gage, Colby Fletcher, Leo Granger, Fred Brown and others have been working with telephone companies and others interested in furnishing CATV to communities throughout the country.

The Credit Corp's financing program is particularly well-tailored to serve the CATV industry. Already Stromberg-Carlson has been involved in 14 states and have just recently completed one of its largest installations in Georgia. Stromberg-Carlson is furnishing and financing CATV systems for independent telephone operating companies and others throughout the country, purchasing the antennas, amplifiers and other equipment from various manufacturers.

The potential of CATV is great. CATV systems today provide as many as 20 channels pulling in distanct signals via a large antenna, and then distributing them to homes over coaxial cable.

From a service developed to provide TV to deprived small towns in the early 1950s, many foresee the way opening to a vast array of home communications services ranging from electronic delivery of newspapers, books and mail, to medical diagnosis, armchair shopping and computer services.

These new services when available will probably be transmitted to the homes by wire since this will not require the allotment of frequencies in the crowded frequency spectrum that conventional through-the-air broadcasting would need. However, not just any wire will suffice. Federal Communications Commissioner Nicholas Johnson has stated that the relationship between coaxial cable and ordinary telephone wiring is like "comparing a river to a garden hose."

Others have envisioned coaxial cable functioning like a "super highway into the home." Coaxial cable simply stated, is a wire enclosed in an insulating dielectric and then wrapped in aluminum. It has broadband characteristics.

These systems can make available in the home or office multiple channels of color TV for entertainment, education or instruction; facsimile for daily newspapers or special news bulletins without interrupting other programs; computer information services for the entire family or the businessman; and instantaneous access to a wide variety of information.

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TV Service Greatly Expanded For Community in Georgia

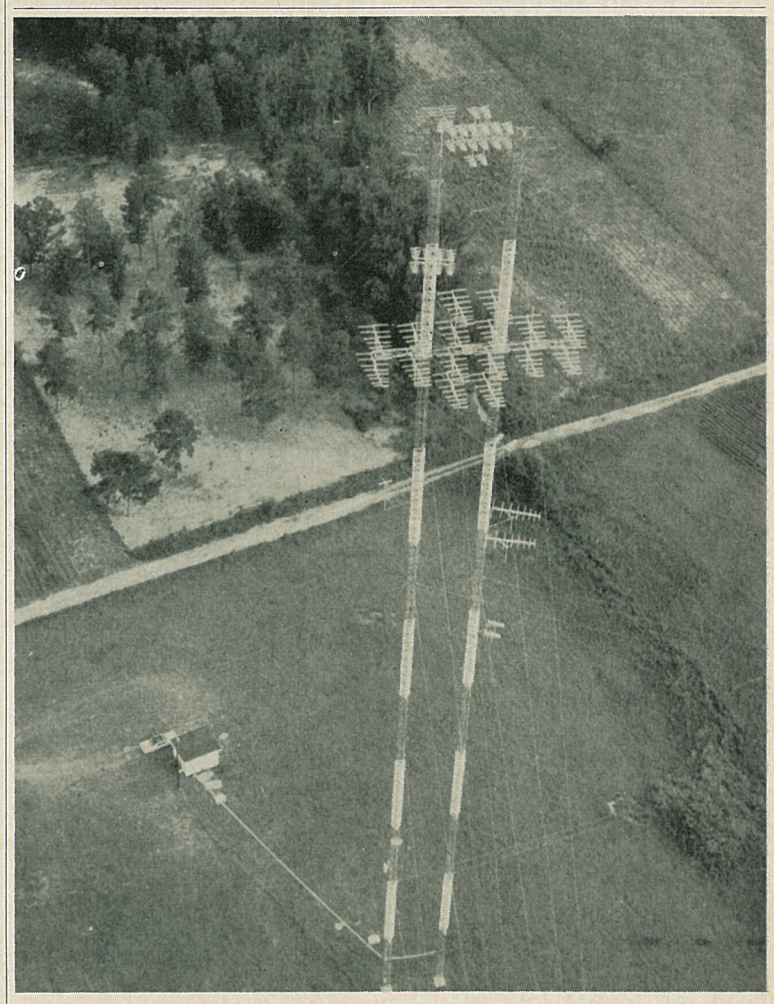
One of Stromberg-Carlson's most sophisticated community antenna television (CATV) installations recently was cut into service in Hawkinsville-Cochran, Georgia by Mid-State Cable TV. These two communities have a combined population of 13,000.

Prior to the advent of cable television, they were restricted to two network channels. The two stations were approximately 50 miles away and the reception at best was spotty. Today, they receive 10-channel programming including all major networks, educational TV and a local weather channel and have the capability of locally originated programs.

As a result of the success of the project, Stromberg-Carlson has received contracts for two similar CATV systems in other remote locations.

The installation involved twin 400-foot guyed towers in an "H" frame configuration approximately half-way between Hawkinsville and Cochran. Very sophisticated antenna arrays were engineered and installed for Stromberg-Carlson by Systems Engineering, Inc. of Sylacauga, Ala.

Through precise positioning of the tower and antennas, subscribers to the system can now receive with excellent quality, three channels from Atlanta, which is 120 air miles away! This is an outstanding feat even for CATV, and Stromberg-Carlson personnel involved have had a major role in this achievement.



ELABORATE ARRAY—This 400-foot tower for a community antenna television (CATV) system was erected in Georgia. CATV system was financed, furnished and coordinated by the S-C Credit Corp.

Resources and Talents Combine To Produce Cushioned Carts

Personnel from several Convair division departments have pooled their resources and surplus materials to produce two special cushioned carts for handling and storing delicate, light-sensitive radomes being produced at KM for Pomona division.

Each cart, made from scrap wood crates and mounted on surplus trailers, contains eight flexible foam domes over which radomes can be placed. Domes are covered with plastic to prevent foam particles from adhering to the interior surface.

Closing the lid on each cart shields radomes from the sun's rays during movement between buildings.

Dick Stull of manufacturing operations provided the foam-doam and mobile-cart concept; John Pasich of jigs and fixtures and Bill Mayhorn of wood mock-up provided design criteria, scrap materials and fabrication; Bill Downs of transportation arranged for the surplus cart bases and is scheduling cart movement; Don McMurtrey of industrial engineering coordinated the project.

McMurtrey said the carts were designed, produced and delivered within a week and "demonstrate what can be done when all concerned work together to resolve a problem."



HANDLING CART — Steven Klers, plastic fabricator in Dept. 454-0, places radome in new handling cart as Bill Downs of transportation and John Pasich of jigs and fixtures, who assisted in project, look on. Foam "domes" in cart hold radomes during in-plant movement.

Copter Parts Task Continues As New Contract Is Awarded

(Continued from Page 1)

Culver City plant with flight testing at Palomar Airport near Oceanside.

Capt. Donald Merritt, an Army representative from the Palomar flight test facility, flew one of the aircraft to the KM plant helipad Oct. 10 to give factory supervisors a first-hand look at how detail parts are used.

Don Evanson, Convair program manager, and Howard Edwards, supervisor of product planning, took a half-hour demonstration flight.

Evanson said the new follow-on contract for detail parts was awarded because of the divison's high quality of workmanship, meeting or exceeding delivery schedules and competitive bidding.

"We have streamlined our way of doing business on this program which has resulted in more efficient operation," he said. "We have experienced less than 1 per cent rejection rate and have incorporated more than 300 engineering changes with minimum interruption in factory production."

Convair this month will begin production of 4,000 main rotor root fittings for helicopters under a separate contract. Fittings will be formed by numerical controlled milling machines at Kearny Mesa with last of the order scheduled for delivery early next year.

Painting of more than 6,000 detail parts under a Hughes subcontract for the Army's TH-55A primary helicopter trainer was completed last month.

The TH-55A, nicknamed the "Mattel Messerschmitt" and powered by a reciprocating engine, is assembled at Rose Canyon and used for pilot training at the Army primary helicopter school at Fort Wolters, Texas.

Evanson said Convair division has been working on Hughes helicopter parts and assemblies since the latter part of 1966 under subcontracts totaling more than $5 million.

ASTME to Sponsor Seminar at College

C. E. Roye, Convair manufacturing development supervisor, will chair a Metal Removal Seminar Nov. 2 at San Diego State College sponsored by Chapter 189, American Society of Tool and Manufacturing Engineers.

O. C. Banke, Convair machine shop general foreman, and Larry Green, manufacturing development engineer, will present a paper on "Machining High-Strength Steels."

Techniques used in machining of large parts for C-5A and F-111 aircraft, machining of titanium and steels, and chemical metal removal will be discussed. Drilling of multi-layer circuit boards at 100,000 rpm will be demonstrated.

Phone Henry Kobrich, ext. 3367 KM, or John Weiland, ext. 656 LF, for reservations.

Daughter Selected For Mexico Trip

Vanann Allen, 17, daughter of B. V. Allen of Convair's Dept. 170-1, is one of 10 Camp Fire Girls from the United States participating in the Olympic Camp for World Youth this month in Mexico City.

A total of 1,500 young people from countries throughout the world are present for the encampment, an aspect of the Olympic Cultural Program. Vanann is a senior at Point Loma High School.

Research Engineer Addresses Symposium

Robert R. Brazell, senior research engineer for Convair's life sciences Dept. 582-0, presented a paper on "The Forgotten Survivor—the Private Pilot" Oct. 3 at the sixth national Survival and Flight Equipment Association (SAFE) symposium in San Diego.

Brazell recently was appointed to a Society of Experimental Test Pilot's special "consulting pilots" committee to evaluate space program safety and hazards.

F-111 Films Highlight SAWE Meeting Plans

A program including two films featuring the F-111 will highlight the Society of Aeronautical Weight Engineers (SAWE) dinner meeting tomorrow, Oct. 24.

For reservations call Julie Richardson, KM ext. 2297.

GARDENERS PLAN TRAVEL PROGRAM

Charles and LaVonne Splinter, members of the CRA Garden Club, will display pictures taken during their trip to Europe at a meeting Nov. 6, 7:30 p.m. in the Floral Bldg., Balboa Park.

Is it news? Pick up a phone and call GD/NEWS

Con-Trib Campaign Approaches Close

Convair employes have two days to go "over the top" in the division's Employes' Con-Trib-Club membership campaign.

Pledges totaling $550,000 and 95 per cent employe participation are campaign goals. Each employe is being asked to pledge his "Fair Share"—the equivalent of four minutes work per day.

Del Dimmitt, campaign coordinator, said initial response has been enthusiastic.

"We can reach our goals but it will take the support of everyone," he said.

Circuit Board Job Completed

Convair division recently completed production of 10,300 high-quality printed electronic circuit boards for General Dynamics' Electronics division in Rochester for use in improved tactical air navigation (TACAN) systems for F-106 interceptors.

A. R. Gaxiola, foreman for electronics manufacturing Dept. 780-1 circuit board processing areas, said the circuit boards were produced in 43 different configurations.

Revised processing techniques, including use of new film and diffused light procedures, and retraining of personnel were carried out to meet critical quality control requirements for the program.

Electronics division is producing the new TACAN units under subcontract from Hughes Aircraft Co. TACAN is part of the original MA-1 radar armament control system built by Hughes for the Air Force.

The improved unit will be the first in which micro-electronic circuitry is used and will be one-third the size and weight of the original. It will provide pilots with range and bearing from ground stations and range between planes equipped with similar units.

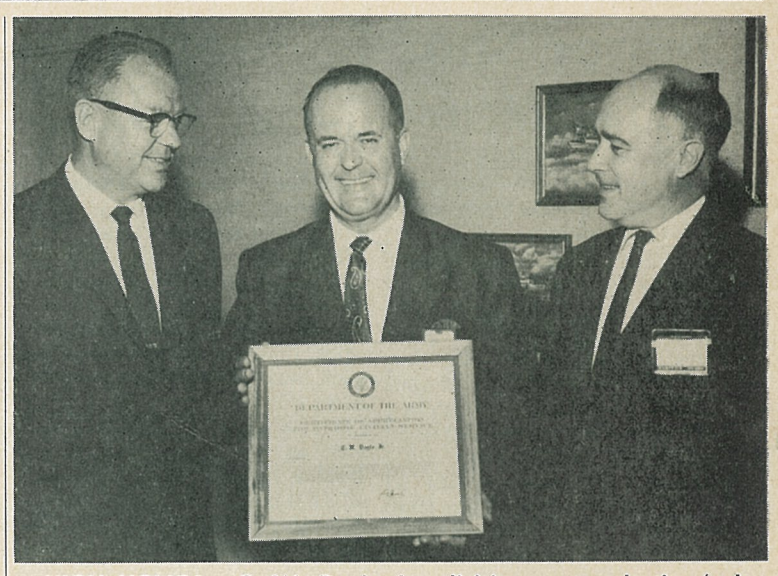


CIRCUIT CHECK—A. R. Gaxiola, foreman for Convair Dept. 780-1 electronic circuit board processing areas, and Carmen Vasquez, electronic assembler mechanic, check sample circuit boards for use in tactical air control and navigation (TACAN) system.

Wives Club Plans Hollywood Trip

Convair Wives' Club members will make a bus trip to Hollywood Nov. 6, leaving CRA Clubhouse at 7:30 a.m. The group will see the Queen Mary, have brunch at the Port 'O Call in Long Beach, visit Busch Gardens, have dinner at Ontra's and see the "Truth or Consequences" TV program.

Cost will be $5 plus meals. For tickets or information, phone Mrs. L. F. Klepach, 264-1013, Mrs. L. H. Allen, 583-2868, Mrs. P. W. Brock, 583-1474, Mrs. Arnold Ramberg, 277-7603, or Mrs. I. E. Whitbey, 283-8971.



HIGH HONOR—C. W. Doyle Jr., division cost reduction/value control administrator, receives U.S. Army's Patriotic Medal from Col. W. H. Fickes, right, deputy commander U.S. Army Logistics Management Center. At left is President Frank W. Davis.

Doyle Awarded Patriotic Medal By Army For Civilian Service

C. W. Doyle Jr., division cost reduction/value control administrator, has been awarded the Patriotic Medal for civilian service by the U.S. Army.

The medal—and certificate—were presented by the U.S. Army Logistics Management Center and U.S. Army Materiel Command for "outstanding public service."

Doyle presented an "extremely successful" series dealing with industry-government concepts and application in the areas of value engineering. He made the presentations from 1966-68 to students and faculty members at the U.S. Army Logistics Management Center, Fort Lee, Va.

Col. W. H. Fickes, deputy commander of the center at Fort Lee, made the presentation in the office of President Frank W. Davis.

Others participating in the ceremony included M. L. Hicks, division counsel; J. T. Cosby, vice president-111 programs; Col. T. Q. James, deputy AFPR; and G. D. Boesch, manager of industrial engineering.

Blueprint and Math Classes to Start Next Week In-Plant

Six in-plant classes for blueprint reading and shop math will be offered by educational services, starting the week of Oct. 28.

Classes for first shift employes will be from 3:45 to 6:45 p.m. in rooms at Lindbergh Field. Classes for second shift employes will be from 12:30 to 3:30 p.m. in rooms at Plant 19. The schedule:

First shift (LF): Basic blueprint reading — Mondays, Bldg. 14, Room 6, Stan Krebs, instructor; Advanced blueprint reading —Tuesdays, Bldg. 14, Room 6, Krebs; Shop math — Mondays, Bldg. 14, Room 5, Ed White, instructor.

Second shift (Plant 19): Basic blueprint reading — Wednesdays, Bldg. 3, Column C18 on 1st mezzanine, Room 2B, Jim Wilkins, instructor; Advanced blueprint reading—Tuesdays, Bldg. 3, Col. C18 on 1st mezzanine, Room 2B, M. E. Long, instructor; Shop math—Thursdays, Bldg. 3, Col. C18 on 1st mezzanine, Room 2B, Ed White, instructor.

Classes will be limited in size and are on a first-come, first-serve basis. Registration is on first day of classes. Additional information can be obtained by contacting Wayne Turner at educational services, Lindbergh Field, ext. 491. Classes will run until the end of January.

Annual Mums Show Scheduled Sunday

The Convair Garden Club will hold its annual Fall Chrysanthemum Show this Sunday, Oct. 27, in the Floral Bldg., Balboa Park, open 1-6 p.m. free of charge.

In addition to mums of various colors and sizes, other classes will include roses, arrangements, corsages, potted plants. There also will be awards for children.

The show is open to all GD employes with entries accepted on the day of the show, 7-11 a.m.

STAFF SCIENTIST NOW WITH NASA

Dr. Bernard D. Newsom, senior staff scientist with Convair division's life sciences Dept. 592-0 since 1961, has accepted a position with the National Aeronautics and Space Administration's bio-medical research division in Houston.

Salvage Schedule

Next employes sales day at the Convair salvage yard, Lindbergh Field plant, will be Saturday, Nov. 9. Hours are from 8 a.m. until noon. Entrance is by badge. Children and pets are not allowed inside the yard.

Schneider Winner In Pistol Shooting

Master Class event in CRA Pistol Club action Oct. 13 went to Roland Schneider with 292, including 11 Xs. Jim Halfacre was runner-up with 287.

Dick Sutton won Expert Class firing 268, seven shots better than Al Worthington's 261.

Short National .22 cal. match went to Don O'Brien with 290. Runner-up was Halfacre followed by Warren Walker and Schneider.

Next match is slated for this Sunday, Oct. 27.

Briefing Scheduled On Hawaii Tours

An informational meeting on CRA-sponsored Hawaii tours will be held at 7:30 p.m. Nov. 6 in Room C at CRA Clubhouse.

Six tour "packages" are offered, ranging from an 8-day, four-island tour at $235 to a 16-day, five-island tour at $368.

Tour groups leave Los Angeles on DC-8 flights Friday evenings and Saturday mornings on a regular schedule.

Bicycle Club Plans Flinn Springs Ride

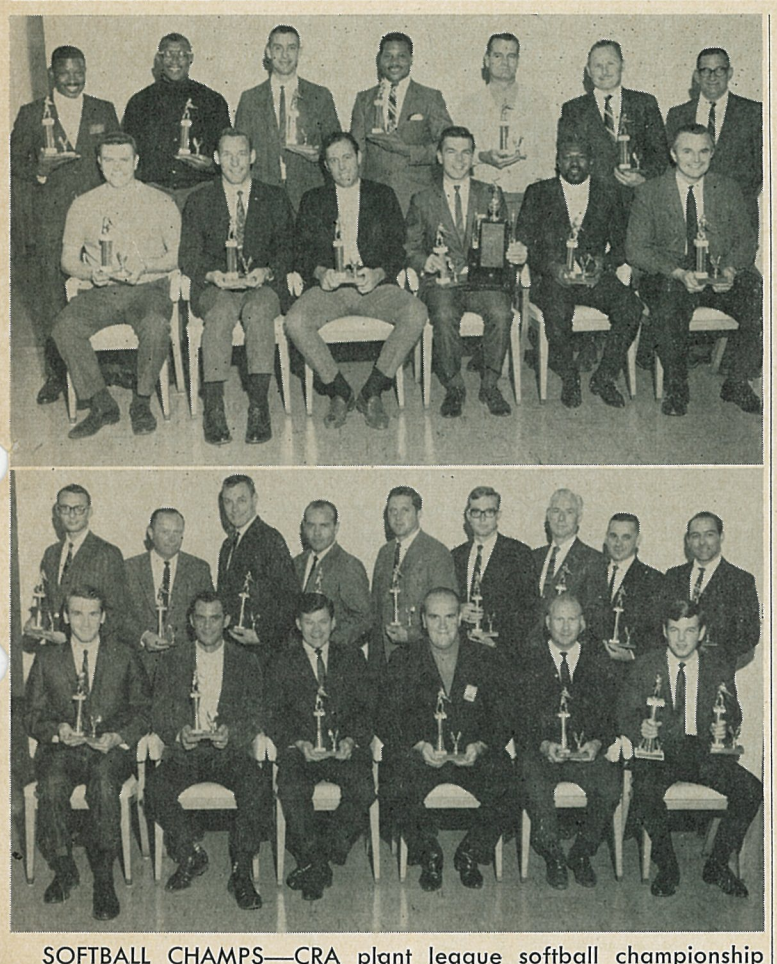
CRA Bicycle Club riders will make a 25-mile Flinn Springs Park and Lake Jennings ride Saturday (Oct. 26), beginning at 9 a.m. from Fletcher Parkway Bowl in El Cajon. The ride also will take the group through Lakeside and Santee.

Phone John Gacho, ride leader, ext. 619 LF or (home) 465-9524 for additional information.

Slide Show Depicts 23-Country Trip

CRA Adventurers took a "round the world" tour by attending a meeting last week in the Clubhouse.

A slide program entitled "Rambling Around Kashmir, Kathmandu, Calcutta" was presented by Tom Leech (Dept. 952-0), who just returned from a 35,000 mile trip which took him through 23 countries.



SOFTBALL CHAMPS—CRA plant league softball championship teams were Cosmo Bums, top, fast-pitch league, and General Dynamics-Electronics Bombers, below, slow-pitch champs and National League winners. Stromberg Datagraphics won American League slow-pitch. From left: Cosmo Bums (back row) Gene Gray, Fred Todd, John Nelson, Clint Gray, Gene Shuler, Jim Miller, Pete Beyrer of CRA; (front row) Dick Dray, Bill Alexander, Bob Perin, Jim Campbell, Shelly White, Jerry Davis; not pictured, Dick DeRosa, Whitey James. GD-E Bombers (back row) Ron Lohrbach, Pete Goetz, Gordon Thiede, Jack Kelley, Doug Miller, Paul Crandell, Barney Early, Bob Eliyas, Al Catalano; (front row) Joe Smith, Bob Smith, Les O'Neal, Tom Reid, John Evans, Bob Archer; not pictured, Bill Creamer, Ray Lake, Bill Hubbs, Paul Gastauer.

Undefeated Cosmo Bums Earn Third Fast-Pitch-League Title

Members of championship softball teams from CRA plant leagues were awarded trophies at a recent award banquet at the KM plant cafeteria.

Cosmo Bums, with Jim Campbell as manager and captained by Whitey James, won their 12 season games with no losses to take their third fast-pitch league championship in five years.

The general Dynamics - Electronics Bombers won first half National League slow-pitch play and beat Los Olympicos, 9-4, in second-half play for their league championship.

GD-E then eked out wins over American League slow-pitch champs Stromberg Datagraphics, 4-3 and 5-4, to become overall slow-pitch champs for the year.

In the slow-pitch "world series," Jack Kelley batted in three runs in the last inning for Electronics to put the first game on ice and Tom Reid hit a homer in the sixth inning to break a tie and score the winning run in the final game.

Les O'Neal was manager and Reid captain of the GD-E Bombers. Mike Peterson was manager and Skip Bowman captain for SDI.

Jeannine Letzring Wins Women's Golf

General Dynamics Women's Golf Club will fire away at Singing Hills' Pine Glen course at 9:30 a.m. Nov. 9 in its next monthly tournament.

Winner's trophy in the October outing at Cottonwood was taken by Jeannine Letzring, who had a gross 87 (net 64).

Merchandise orders for second and third place went to May Dean Schell (gross 100, net 69) and Agnes Sliger (gross 98, net 72).

All GD women employes and dependents are invited to play. Additional information can be obtained by contacting Freda Magargal at Kearny Mesa ext. 2933 or Doris Parker at Lindbergh Field ext. 583.

Bob Nicholas Takes 'Diver of Year' Lead

Bob Nicholas brought in four lobsters and a fish Oct. 13 at CRA Delta Divers' "combination dive" at Cardiff to take the lead in the club's "Diver of the Year" competition. Jim McGinnis had held the lead since March.

Eighteen competed in the Cardiff event. Jack Fisher brought in the biggest lobster catch and Loren Batchman speared seven for biggest fish catch honors.

Runners-up behind Nicholas in points for the day were Arlen Jones, Peter Smith, Herb Boynton.

EVANS, OAKLEY TEAMS WIN

Winners of the Oct. 4 CRA Bridge Club master point game were Mr. and Mrs. Wayne Evans, north-south, and Mr. and Mrs. David Oakley, east-west. Oct. 11 game winners were Mr. and Mrs. C. A. Miller, north-south, and Mr. and Mrs. Robert Rustad, east-west.



GOLF LAURELS — Rudy Cruz, second from right, was awarded set of clubs for winning CRA Golf Club's 1968 plant championship. Runner-up Pete Williamson, second from left, will have entry paid for Andy Williams' San Diego Open. Offering congratulations were Del Dimmitt, CRA golf commissioner, right, and George Schmiedel, recreation supervisor.

Dry Land Ski Practice Scheduled As Prelude to 'Real Thing' Trips

Beginning snow-ski lessons will be offered Sundays for the next three weeks for General Dynamics family members at a "dry land ski school."

Neophytes will prepare for later Convair Ski Club trips to mountain resorts by learning rudiments at 1 p.m. Oct. 27 and Nov. 3 on the grass in front of the Puppet Theatre in Balboa Park.

Practice runs down a 50-foot plastic-base "artificial snow" slope will be held during the third session at 1 p.m. Nov. 10 at Stanley Andrews Sporting Goods Co., 840 B St. Registration can be made at the first session.

The 50-member Convair Ski Club combines both water and snow ski activities — with water ski activity year-round and snow ski trips to resort areas during winter months.

First major snow ski event of the year is scheduled over the Thanksgiving weekend, Nov. 27-Dec. 1, at Mammoth Mountain about 450 miles north of San Diego.

"Dry land school" beginners will have special charter-bus outings Dec. 8 at Snow Summit and Dec. 13-15 at Mammoth.

Snow trips to Mammoth also are scheduled Jan. 3-5, Jan. 24-26 and Jan. 31-Feb. 1 with week-long trips to Aspen, Utah, the first week in February and Sun Valley, Ida., the first week in March. Weekend trips also are scheduled to Big Bear.

The Ski Club will hold a ski equipment "swap meet" Nov. 22 from 6:30 to 10 p.m. at the CRA Clubhouse.

A "watuski" is planned March 29 with members to water ski on Mission Bay in the morning, snow ski at Big Bear in the afternoon and golf at Palm Springs in the evening.

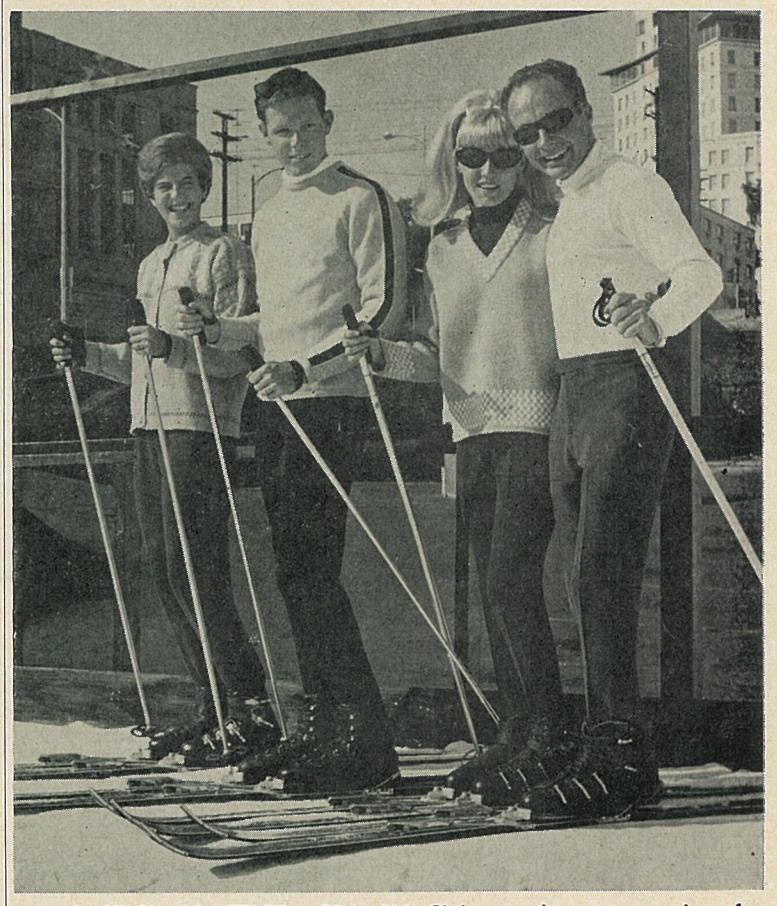
Club water skiers ski at 8 a.m. each Saturday off the 3500 block of Crown Point Drive and on Sundays and Thursdays during the summer. Weekend trips to Parker Dam on the Colorado River are held four times a year.

The club logs about 15 hours a week with its 14 and 16-foot fiberglass outboards on ski-tow runs.

Annual memberships, covering both snow and water activities, are $6.50 for singles, $8.50 for couples and $10.50 for families. Meetings are held the first Tuesday each month.

Joe Harris is commissioner and Harry Eastman is president. Roy Poston is vice-president for water skiing and Robin Bithell for snow skiing.

Phone Eastman, ext. 2287 KM or (home) 274-4982, or Bithell, ext. 1821 KM or (home) 296-6098, for additional information.



"PLASTIC" PRACTICE—CRA Ski Club members, preparing for practice run on plastic-base "artificial snow," are, from left, Cheryl and Ralph Kiger, Carol Payne, Harry Eastman. "Snow" will be used for "dry land" ski practice.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is Oct. 29. Call ext. 1071 LF or 3322 KM. All meetings are held in CRA Clubhouse unless otherwise noted.)

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BADMINTON — Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BASKETBALL—Managers meeting, 7 p.m., Oct. 24. Team play begins in December.

BICYCLE CLUB—Flinn Springs, Lake Jennings 25-mile ride, Oct. 26, 9 a.m. Leave from Parkway Bowl, El Cajon.

BONAIR FLYERS—Meeting Nov. 7, 7:30 p.m.

BRIDGE — Duplicate bridge sessions each Friday, 7:30 p.m.

CAMERA CLUB—Meeting Nov. 3, 8 p.m. Photo Arts Bldg., Balboa Park.

CERAMICS — Meet each Tuesday and Thursday, 7-10 p.m.

CHESS—Play each Wednesday, 7 p.m.

CHORUS—Rehearsals 7:30 p.m. each Monday.

FENCING — Workouts and instruction Friday, 7:30-10:30 p.m.; YWCA, 10th & C Sts.

GARDEN CLUB—Fall "Mum" Show, Oct. 27, 1-6 p.m., Floral Bldg., Balboa Park. Meeting, Nov. 6, 7:30 p.m. in Floral Bldg.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Monday through Friday; 10 a.m. to 5 p.m. Saturdays. Call ext. 1111 KM.

ICE SKATING — GD family skate nights Thursdays, 6:15-7:45 p.m.; Mission Valley Ice Arena.

MINIATURE RAILROAD — Operating sessions Saturdays, Sundays and holidays, CRA Missile Park.

MODEL HO RAILROAD — Work sessions each Tuesday, 7 p.m., CRA Missile Park.

PISTOL CLUB—Next shoot, Oct. 27, 9:15 a.m., S.D. Police Pistol Range.

RIDING CLUB — Halloween party, Oct. 25, CRA Clubhouse.

RIFLE CLUB — Seniors shoot second and fourth Wednesday, 7 p.m. Juniors shoot first and third Saturdays, 9 a.m. Gilltspie Field Range.

SKI CLUB—Beginner snow ski lessons, 1 p.m., Oct. 27, Puppet Theatre, Balboa Park.

SQUARE DANCE CLUB—Dance 8-10 p.m. each Thursday.

STAMP CLUB — Meeting, Oct. 24, 7:30 p.m.

WIVES CLUB — Bus trip to Hollywood, Nov. 6. Leave from Clubhouse, 7:30 a.m.

WOMEN'S GOLF — Nov. 9 tourney, Singing Hills. Tee-off, 9:30 a.m.

Managers to Meet On Hoop Schedule

First meeting for managers of CRA plant league basketball teams is scheduled at 7 p.m. tomorrow (Oct. 24) in Room C at CRA Clubhouse.

Teams in both slow-break and fast-break leagues will begin play the first week in December. Trophies will be awarded to members of winning teams in each league.

Bennett Wins Advanced Singles In CRA-Mgt. Club Tennis Tourney

Winners of the five-week fall tennis tournament sponsored by CRA Tennis Club and Convair Management Club were awarded trophies Oct. 14 in ceremonies at CRA Clubhouse.

Advanced singles—John Bennett, winner; Larry Chambers, finalist.

Advanced doubles—Dick Mostowy and Mike Rabbitt, winners; Cecil and Ricky Norwood, finalists; William Connor and Dave Gorham, consolation.

Intermediate singles — Barry Farwell, winner— Ed Bennett, finalist.

Intermediate doubles — Mike Griggs and Dan Hamlin, winners; Dave Gorham and D. Molnar, finalists.

Men's novice singles—Nick Colovus, winner; Ed Zivolich, finalist; Dick Garstang, consolation.

Men's novice doubles—Nick Colovus and Peter Livengood, winners; Ed Zivolich and Dom Decrescenzo, finalists; Gary and Clyde Blevins, consolation.

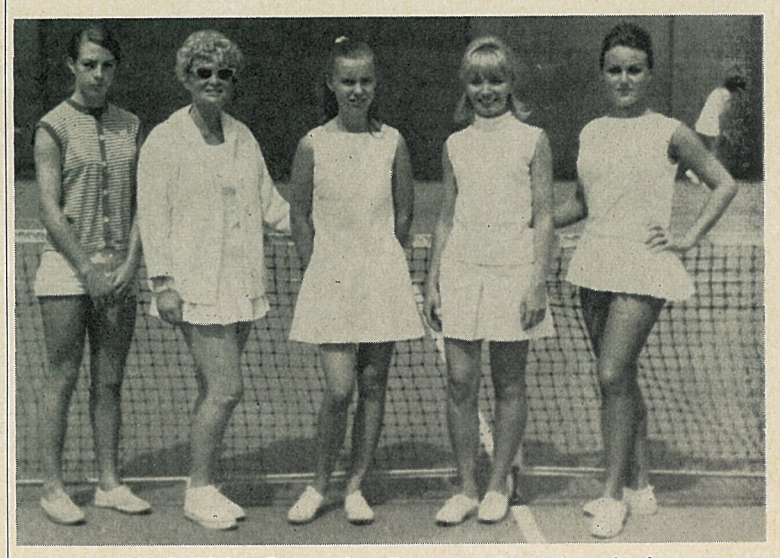
Women's novice singles—Hertha Hittinger, winner; Jane Colovus, finalist.

Women's intermediate singles —Ruth Bennett, winner; Amy Jarlett, finalist; Mary Lou Gayman and Cris Dematteis, consolation.

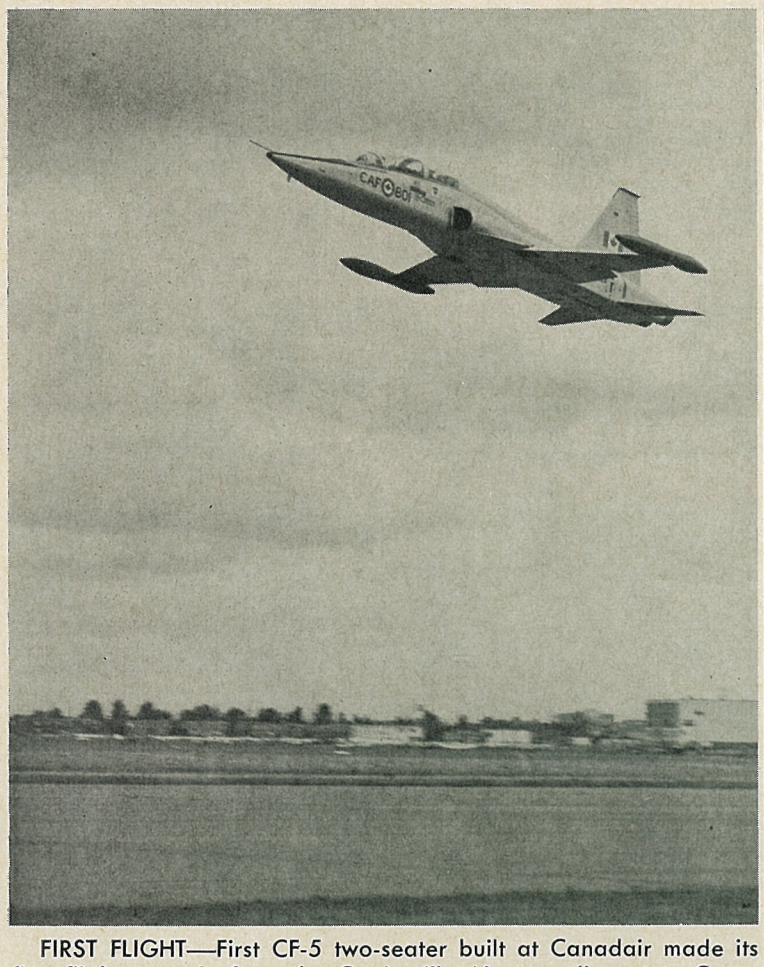
Mixed doubles—Cindy Ursich and Dave Gorham, winner; Vicki Jensen and William Connor, finallists; Ann and R. F. Mawhinney, consolation.

Winners of singles round-robin events for a summer beginners tennis class were Fred Loudin, winner, and Richard Guerrero, finalist, and Roberta Howard, winner, and Irene Wong, finalist.

Two members of CRA Tennis Club—Cecil Norwood and Dick Mostowy—each won second-place trophies in a recent city industrial tournament.



FAIR "SINGLES"—Competing in women's novice singles competition in recent CRA Tennis Club fall tournament were, from left, Roberta Howard, Thelma Zivolich, Desta Blevins, Jane Colovus and Hertha Hitteinger. Hertha defeated Jane for title in round-robin.



FIRST FLIGHT—First CF-5 two-seater built at Canadair made its first flight recently from the Cartierville Airport adjacent to Canadair plant at Montreal. This is third Canadair-built CF-5 to begin test flights. First two, single seat models, are being tested at Edwards Air Force Base in California. Canadair is building 115 for Canadian Armed Forces and 105 for Royal Netherlands Air Force.

Federal, Air Force Officials Briefed On Convair, Fort Worth Programs

Herbert Roback, staff director for the Military Operations Subcommittee of the U.S. House of Representatives, and Lt. Col. Walter Schrupp of the Office of the Secretary of the Air Force visited Convair division's Kearny Mesa plant Oct. 9 for a series of classified briefings on Convair and Fort Worth division aircraft programs, studies and planning.

Frank Davis, president of Fort Worth division, briefed visitors on F-111 current and future activities. Jack L. Bowers, Convair general manager, discussed Convair product lines.

Other presentations were given on F-106X by W. W. Fox; LIT (light intra-theater transport), Dr. B. A. Parkin; AX close-air support aircraft, C. L. Adcock; VS(X) anti-submarine-warfare aircraft, Richard Sewall; VFX-1 fighter aircraft, David Jones; advanced programs, Richard Nau.

Hanink Heads Electronics Div. As Gen. Manager

(Continued from Page 1)

forces and the National Aeronautics and Space Administration. It has major operations at Orlando, Fla., and San Diego, Calif., in addition to Rochester and Avenel.

Hanink joined General Dynamics in 1966 following a 28-year career with Curtiss-Wright Corp. where he advanced through engineering, production, product development and sales to vice president of marketing.

He earned a B.S. degree in metallurgical engineering from the University of Michigan in 1938.

Painter, prior to his move to Rochester two years ago, was a vice president of General Dynamics Electronics division and general manager of its Dynatronics operation in Orlando.

ETR Bond Buyers Honored by NASA

Convair division personnel at the Eastern Test Range were honored in a recent NASA ceremony, along with those from other aerospace companies, for having more than 90 per cent participation in regular U.S. Savings Bonds purchases.

Kenneth E. Newton, Convair ETR operations manager, was presented a 5 by 8-foot "Freedom Flag" for division ETR personnel at the ceremony.

Weekend Will See 'Lost' Hour Return

Still looking for that hour of sleep you lost last Spring due to Daylight Saving Time? Cheer up, you'll get it back this weekend with the return to Standard Time.

Procedure calls for moving the clocks back one hour at 2 a.m. Sunday, Oct. 27.

Remember: It's Spring forward, Fall back.

NASA Orbital Lab Plans For 1974-75 Described

NASA plans for launch of an earth orbital laboratory in the 1974-75 time period were outlined for Convair representatives Oct. 8 by Dr. Franklin P. Dixon, director of manned spacecraft for the Office of Manned Space Flight in Washington.

Dixon and Robert Lohman, who is succeeding him as director of manned spacecraft this month, were at Convair's KM plant for a series of technical briefings and facilities tour.

The proposed earth orbiting lab would be manned for a two-year period, be resupplied every 90 to 180 days and would be used as a base for a variety of scientific experiments.

Convair last year conducted a six-month preliminary structural design and equipment study for the Basic Subsystem Module or "engine room" for such a laboratory under a contract from NASA's Manned Spacecraft Center in Houston. NASA plans to fund a follow-on "phase B" study next year.

Dixon and Lohman were briefed on various aspects of Convair division management and organization and on space lab-related activity including work on environmental thermal control for life support systems, a space centrifuge feasibility study and artificial-gravity studies.

W. W. Withee, Convair program director for manned earth orbital systems, was host. Presentations were given by Withee, J. W. Maloney, J. E. Stumm, J. F. Brady and R. J. Lutz.

The visiting NASA officials toured the division's space sciences, life sciences, computer-simulator, launch vehicle checkout and systems test, electronics manufacturing and Orbital Vehicle-1 satellite production areas.



"One more thing . . . a job is either rejected or it's okay . . . we have no place for the term 'fair to middlin' . . ."

Many Years Later

Alumni of WWII Prison Camp Finally Meet at Fort Worth

Turn back the calendar to 1944 and travel down a World War II memory lane.

That's what Warren Kiley, senior design engineer at Fort Worth division, on loan from San Diego, and Joe Benoit, FW senior design engineer in Dept. 64-2, did when they accidently discovered recently they were both confined in the same POW camp. The men now work only five desks apart.

The two were among 10,000 Americans who were captured and held at Stalag Lufte I, near Barth, Germany.

Benoit was flying as a flight engineer with the 44th Bomb Group stationed in England. His B-24 was shot down on its ninth mission and ditched in the Bay of Biscayne on March 27, 1944. Only four of the crew, who had flown the first daylight raid over Berlin, survived. They were picked up by the French.

Injuries to Benoit included a broken leg. He was given medical attention in a hospital in Southern France, then transferred to a hospital in Paris, for five months. Later, he was moved to Stalag Lufte IV in Prussia before being moved to Stalag Lufte I. He remained there for five more months until the prisoners were liberated on May 1, 1945.

Kiley was a pilot of a B-17 with the 34th Bomb Group, based in England. On Oct 7, 1944, his plane was hit and the tail shot off. His crew parachuted over Germany. Six of his men were captured. It was Kiley's 33rd mission.

The night before Lt. Kiley was shot down, he was awakened to participate in a special ceremony where he was awarded the Distinguished Flying Cross.

The two former Air Force men compared notes on cooking on their POW camp stoves, Red Cross ration boxes, and the watery stew they existed on before liberation.

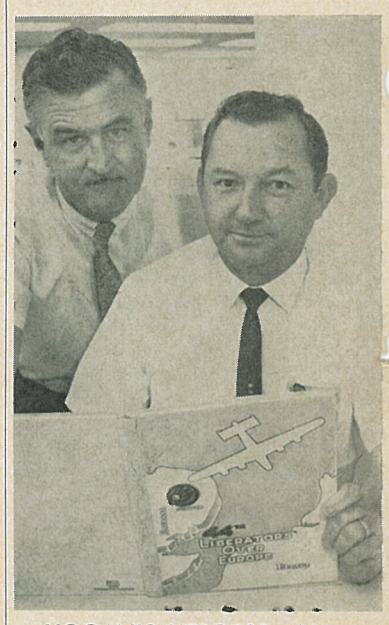
Kiley told of his experience in digging a dirt tunnel for escape. It didn't help but kept them busy. Benoit told of the disappearance of the German guard's caged white rabbits. "They tasted good," he laughed.

Both recalled the visit of Max Schmelling to their camp, and they remembered two outstanding fighter aces were confined with them.

The Russians occupied the camp for two weeks, then they were moved to Camp Lucky Strike, France, where 50,000 were living in tents. They were fed good food and fattened up before they were flown home to the United States. "We were like kids in a candy store," said Kiley.

Reviewing incidents of 24 years ago, Kiley says, "is almost like I read about the experience in a book," or Benoit feels "the experience is more like a dream."

Kiley, originally from Chicago, Ill., hired in with GD in San Diego in 1952. Benoit, formerly of Caplan, La., joined the Fort Worth division in 1958. Both men have four children and Benoit's 20-year-old son is now with the Navy serving on the USS Von Steuben.



HOGAN'S HEROES?—Not exactly, but Warren Kiley, left, and Joe Benoit, who work near each other at Fort Worth division, discovered recently they were both confined in same POW camp during World War II.



FAMILY AFFAIR—Corporate committee on forms standardization met recently at Quincy division to exchange ideas and evaluate procedures. Seated, from left, Mrs. Madeline Ulterino, Electronics; Mrs. Sine Cassara, Corporate Headquarters; Mrs. Anne Jaggar, Convair; Ralph Fountain, guest, Raytheon; Jesse Clark, guest speaker, Raytheon; Richard Shane, Electric Boat division; Mrs. Mary Evanson, Stromberg-Carlson; Moira McKay, Electric Boat, and Mrs. Jan Hansen, Pomona division. Standing, from left, Ross Allward, Canadair; James W. Snodgrass, Fort Worth; Frank P. Connell, Quincy; Gordon Provost, Quincy, chairman.



GOAL: QUALITY—Corporate quality panel met in Rochester recently. From left, seated: Howard Beiseigel, Stromberg-Carlson (Charlottesville); Mac Rosso, Dynatronics; Al Alaimo, Electronics; Marvin Curland, Electric Boat; George Schwab, Canadair; Phil Harr, Corporate Headquarters; Earl Weiher, Fort Worth. Standing: Clint Bay, Fort Worth; Don Williams, Canadair; Gene Gilmore, Convair; Fred Kaltenback, Stromberg-Carlson; Russ Medlock, Convair; Jack Riegert, Fort Worth; Jack McDonnell, Pomona; Richard Nicholson, Electronics (San Diego); Bob Stevens, Stromberg-Carlson; Frank Rack, Quincy; Dick Barnett, Stromberg Datagraphics; George Pavlovich, Electronics. Attending but not pictured are: John Holland, Electronics; Earle Peacox, Electronics; Harry Wehrley, Dow Chemical Corp.; Sid Curtis, Electronics; Conrad Boekamp, Convair; Ralph Limpert, Electronics; Joe Gross, Electronics; Jerry Ratcliff, Electronics.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 23 PUBLISHED BY GENERAL DYNAMICS CORPORATION 7178 Wednesday, November 6, 1968



SECURITY CITATION—Officials at ceremony in which Convair division received James S. Cogswell Award for sustained excellence in Department of Defense industrial security program were, from left: Col. C. F. Merz, Defense Contract Administration Services (DCAS) plant representative; M. V. Wisdom, Convair industrial relations director; S. R. Sharp, Convair industrial security manager; Brig. Gen. A. E. Exon, director, DCAS Region-Los Angeles; Joe Sullivan, chief, industrial security section, DCASR-Los Angeles.

Division Awarded Security Honors

Convair division and Convair's Vandenberg AFB operations have been awarded two of the 25 James S. Cogswell "certificate for excellence" 1968 industrial security awards by the Defense Supply Agency, the organization charged with the Department of Defense industrial security program.

Brig. Gen. Arthur E. Exon, director, Defense Contract Administration Services Region, Defense Supply Agency, Los Angeles, presented the Convair division award Oct. 22 at the Kearny Mesa plant and the Convair Vandenberg operations award Nov. 1 at Vandenberg AFB.

M. V. Wisdom, director of industrial relations, and S. R. Sharp, manager of industrial security, accepted the award for the division in behalf of Jack L. Bowers, general manager.

The award for Vandenberg employes was accepted by Roger C. Lynch, Convair VAFB operations manager, M. F. Tooley, chief of industrial relations, and Ray Forrest, security officer.

General Exon said more than 13,500 industrial firms throughout the country with Defense Department clearances for classified contracts were considered for the awards — named in honor of the late Col. James S. Cogswell, USAF, first chief of a centralized office of industrial security under the Deputy Director for Contract Administration Services of DSA at DCAS Headquarters, Cameron Station, Va., in 1965.

Factors considered in selection of winners included the attitude of management toward internal security; security training, retraining and motivation programs for employes; regular inspection of security practices within the organization; security in publicity, company publications and advertising; security methods in areas such as reproduction and transmission of classified documents; security control in employe and visitor movement within plants.

General Exon said nominations from DCASR-LA and 10 other regions were reviewed and final selections made by DCAS Headquarters personnel and the Undersecretary for Security Affairs of the Department of Defense.

"Your program has made the hurdles," he commented.

A total of 42 awards — 17 "outstanding performance" plaques

(Continued on Page 2)

First Master Plaster Formed For DC-10 Skin Panel Sections

Work on Convair division's multi-million dollar DC-10 fuselage program has taken another stride with the first master plaster for skin panel sections nearing completion.

Joe Penner, senior tool project engineer and DC-10 production engineering representative, said each compound-contoured skin panel will have its shape simulated in plaster.

From these plaster shapes, a reverse plaster "splash" will be taken. This, in turn, will be used to make stretch forms, over which the exterior skins will be formed into the aircraft contour.

Development of the master shape deals with setting hidden templates on a rigid base, Penner said. Templates are precisely cut to loft lines and set at established station lines.

Expanded metal mesh then is secured between the templates a few inches from the exterior template surface. After this, plaster is applied over the mesh and smoothed to the template edge to complete the master form.

Meanwhile, Jack Hurt, DC-10 program manager, and Penner met with Douglas Aircraft officials Oct. 30 at Long Beach to present Convair's second status report on the project.

Hurt, Penner and other members of Convair's DC-10 team have been working closely with Wayne Goldie, resident Douglas Aircraft representative, and his assistants.

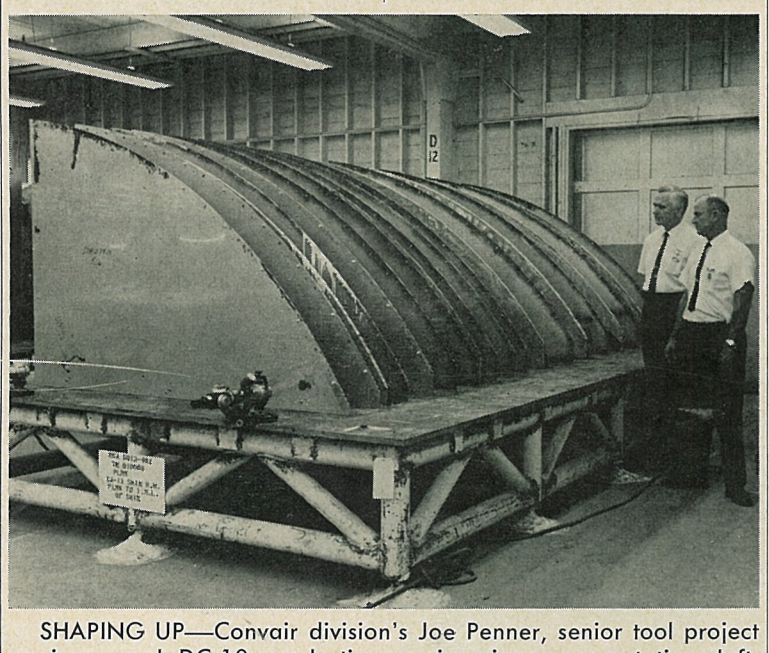
Tours of Douglas Factory Arranged

Three hundred Convair Management Club members will see a full-scale DC-10 mockup during tours of the Douglas plant in Long Beach today, tomorrow and Nov. 14.

Buses will leave the Kearny Mesa plant at 4:30 p.m. each of the three days, returning about 11 p.m.

Only a few tickets for the Nov. 14 tour remained early last week.

Cost of $5.35 includes transportation and dinner. Phone Larry Kelly, ext. 1925 KM, or Barbara Freeman, ext. 1405 LF.



SHAPING UP—Convair division's Joe Penner, senior tool project engineer and DC-10 production engineering representative, left, and Wayne Goldie, resident Douglas Aircraft Co. representative at Lindbergh Field, view progress on first DC-10 skin panel master plaster.

Noted Author Guest Speaker

Professor C. Northcote Parkinson, humorist, historian and educator best known as author of the book "Parkinson's Law," will be guest speaker at a Nov. 13 Convair Management Club meeting in the International Room, El Cortez Hotel.

Among Parkinson's most widely quoted "laws" are: "Work expands to meet the time and personnel available for its completion" and "Expenses rise to meet, or exceed, income."

With "tongue in cheek," he will expound on these and other observations from his analysis of the inside workings of government, corporations, educational institutions and the family.

Parkinson has taught history at Indiana University, Harvard, the Royal College at Dartmouth, England, the University of Liverpool and the University of Malaya in Singapore. He has lectured on taxation problems in several countries.

Tickets are $3.75 for members and wives and $5 for others. They are on sale through club boosters. Social hour will be at 5:30 p.m. with dinner at 6:45. Free parking will be provided.

Hourly Savings Plan Maximum Will Rise to 8 Pct. in 1969

Hourly employes may increase their contributions to the General Dynamics Hourly Employes' Savings and Stock Investment Plan to a maximum of 8 per cent, effective with the first pay period in 1969.

Paul Allgire, supervisor of employe benefits for Convair division, said change request forms (5159-4) are being distributed through supervisors to all hourly employes currently participating in the plan. Forms are to be returned to employe services before Dec. 1.

The Plan for hourly employes, when put into effect, provided for a 2 per cent increase each year in contributions members may make to a 10 per cent maximum effective Jan. 1, 1970.

Under the Plan, General Dynamics adds 50 cents for each $1 invested by the employe.

Changes in investment options also may be authorized on a separate form (5159-1) if desired and also must be returned to employe services prior to Dec. 1.

Salvage Soliciting Bids on Vehicles

Salvage offices at Convair's Kearny Mesa and Lindbergh Field plants are accepting bids for sale of five trucks and truck-tractors. Included are one 1961 Ford tractor, three 1963 Ford tractors and one Ford two-ton stake-body truck.

Deadline for submitting bids is 1:30 p.m. Nov. 13. Phone ext. 2154 LF or 1873 KM for information.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

Q—If I elect to receive a distribution of my 1965 Savings and Stock Investment Plan account, does this mean that I am committed to receive distributions in subsequent years? Or can I choose to receive it one year and not the next?

A—Your election applies only to the year in question. You may receive it one year and not the next, as you wish.

★ ★ ★

Q—Can't we have two attendants accompany an ambulance in-plant? Recently, when I needed medical attention the driver was alone and it was necessary to ask passers-by to help.

A—Ambulances usually carry two firemen, except in an emergency when one is required elsewhere. However, your point is well made, and in future a fire supervisor will ride with the ambulance in such emergencies.

★ ★ ★

Q—More than 300 are working Saturdays in Bldgs. 33 and 28 at KM, and most of these, along with those in Bldg. 5, park closer to Gate 10 (which is closed) than Gate 1. Why not put a guard on Gate 10 from 6:30 to 7 a.m. and 3:30 to 4 p.m.?

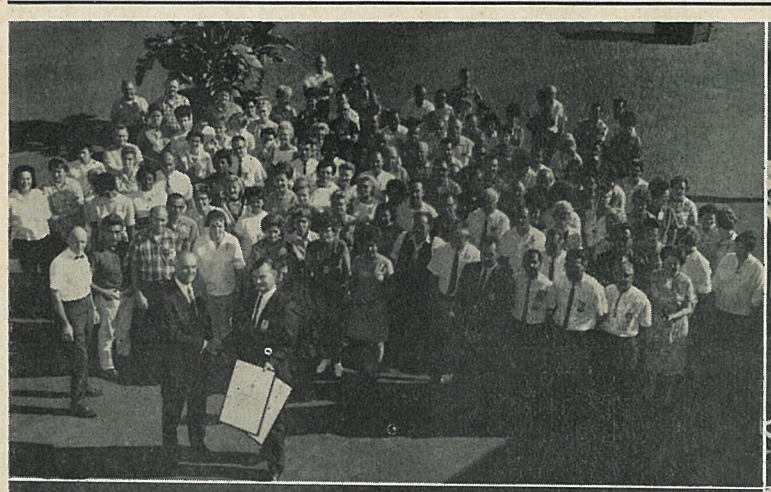
A—Bldg. 33 supervision has agreed to notify guard headquarters when a significant number will be working on Saturdays and under these circumstances Gate 10 will be opened as you suggest.

★ ★ ★

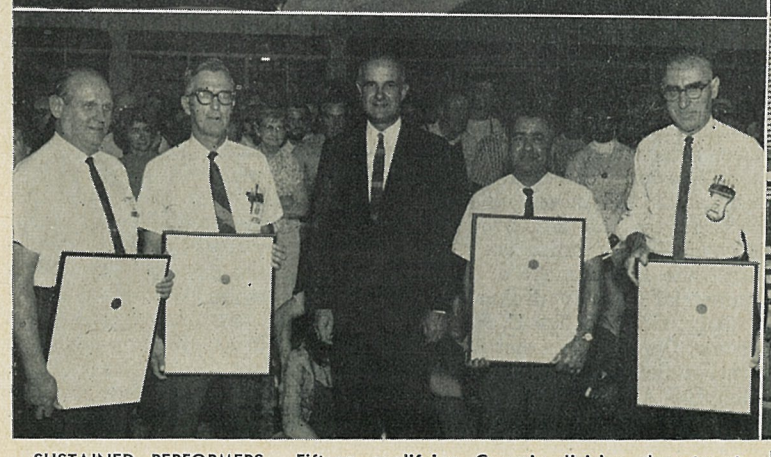
Q—In some departments, employes are permitted to split up their vacation time. In others there is reluctance to grant this option. What is company policy?

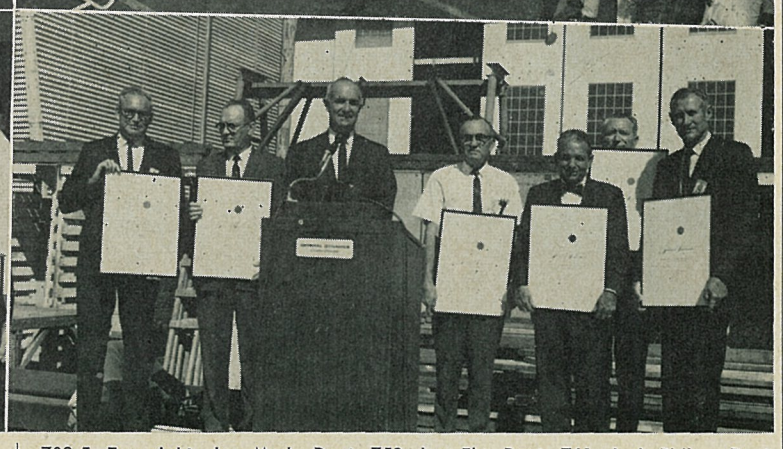
A—Company policy encourages employes to take vacations on a continuous basis. There are times, however, when it is convenient for both the company and the employe to split the time. Current policy permits this with approval of supervision. Vacation schedules are dependent upon production needs, though every effort is made to coordinate vacations with employe plans.

(Continued on Page 2)









SUSTAINED PERFORMERS — Fifteen qualifying Convair division departments recently were presented Craftsmanship "Sustained Performance" awards by Jack L. Bowers, general manager, in ceremonies attended by about 1,250 employes at Kearny Mesa and Lindbergh Field plants. Supervisors accepted for each department. Top left: awards are received by Don Anderson for Depts. 780-2 and 780-5. Top right: Joe Merk, Dept. 759, Lee Ely, Dept. 761, Jack Ridley, Dept. 733. Lower left: Lee Stamper, Dept. 019, Al Oehler, Dept. 049, R. J. Ratliff, Dept. 016, Ben McMicken, Dept. 045. Lower right: H. A. Mohr, Dept. 001, Carl Banke, Dept. 015, Paul Franks, Dept. 836, Bill Wolfe, Dept. 002, Joe Turner, Dept. 031, John Ruzich, Dept. 833-2.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Nov. 1 and Nov. 15.

Thirty-year: Dept. 149. R. H. Gilliland.

Twenty-five-year: Dept. 016, Thelma I. Marior; 019, Alma M. Emmons; 027, C. G. Rojas; 031 B. L. Ennis, R. J. Karash; 045, J. Caldwell; 141, M. E. Walker; 400, P. V. Cook, P. E. Harris, H. S. West; 401, J. I. Sather; 585, R. L. Fefferman; 835, H. S. Murphy; 860, Edith W. Danos.

Twenty-year: Dept. 031, K. C. Green, J. E. Truner; 195, C. M. McKenzie; 250, I. T. Heckman, D. L. Thorpe; 402, Naomi R. Hastings; 420, D. Ashcraft; 579, D. O. Whitney; 833, L. Erickson; 953, C. W. Younger; 999, J. W. Norris.

Fifteen-year: Dept. 015, J. E. Lemon, A. E. McFarland; 027, J. F. Meller Jr.; 130, S. R. Sharp; 142, W. E. Dent; 195, J. R. Alameda; 401, A. R. Carvajal; 491, J. W. Jackman; 511, W. E. Service; 518, A. R. DiJoseph; 553, C. A. Heskett; 591, R. M. Leger; 597, C. P. Plummer; 731, D. E. Burkhart; 732, D. M. Brown, J. L. Ewings Jr.; 744, C. M. Maddox; 756, D. C. Martin; 780, M. T. Grove Jr.; 850, Mildred W. Wilson; 966, R. G. Rose; 979, Patricia A. Manning, R. A. Morgan; 985, H. J. Hastings.

Ten-year: Dept. 019, G. A. Rehkopf; 101, Beverly S. Leep, Crystal M. Richards, R. A. Tydingco, C. E. Winsor; 130, W. F. Weining; 141, D. D. Hinch; 142, E. E. Pear; 170, M. E. Jordan; F. T. Finn; 195, Dorothea F. Schweitzer; 250, E. Lewellen; 452, A. Berdal, C. C. Wray; 454, G. E. Olson; 460, D. Law; 512, R. C. McNamara; 515, D. J. Hallman; 517, R. O. Lay; 518, Delphine R. O'Neill; 524, Dovie L. Button, Helen L. Hodge, Lorraine K. Ward, Shirley A. West; 731, G. B. Kessen, A. V. Polcyn, M. H. Silvers; 758, G. A. Rauch Jr.; 780, J. B. Driscoll, A. R. Gaxiola, G. E. Lokey, E. W. Way, L. Whitney; 832, Gloria S. Maese; 840, Frances R. Zogg; 850, Patricia A. DePuy; 985, J. Sekishiro; 999, J. K. Irving.

Rider-Driver

CONVAIR

RIDE WANTED — From Santee area (Cambury Dr.) to Lindbergh Field plant, 7 a.m. to 3:30 p.m. shift. Will consider car pool. Phone W. L. Duncan, 449-0249.

RIDE WANTED—From 59th and Market St. to Lindbergh Field plant, 7 to 3:30 p.m. shift. Phone Luther Brown, Ext. 714 LF.

RIDE WANTED—Lakeside to Kearny Mesa plant, 7 a.m. to 3:30 p.m. shift; phone Virginia Fullarton, ext. 1757 KM or (home) 448-8399.

Personals

I wish to thank my many Convair friends for their thoughtfulness during my illness.

Eulah Trice
Dept. 250-4

* * *

To the many friends of C. R. (Chuck) Cearley, who share our great loss by his death Oct. 8, we gratefully acknowledge your memorial to him (the commemorative portfolio, the lovely flowers and trees). Your kind expressions of sympathy and comfort are deeply appreciated.

Maxine, Karen and Charles N. Cearley

General Dynamics News

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Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Awards

CONVAIR

Employe Suggestion awards approved for the week ending Oct. 18.

Dept. 027, C. Absher, $15.00; 979, M. A. Baldwin, $68.80; 015, S. Brown, $46.60; $27, P. W. Byrd, $100.00; 401, F. F. Campbell, $59.10; 979, G. M. Crusselle, $83.70; 019, E. W. Ferrin, R. C. Nordby, $15.00 each (two joint awards); 049, L. C. Foust, $15.00; 759, E. Gabbard, $15.00; 144, H. M. Gallant, R. A. Ihde, $163.70 each (joint award); 460, L. M. Gastellum, $15.00; 045, H. E. Gaugh, J. T. Kucala, $13.10 each (joint award); 149, B. Hahn, $25.00; 401, B. J. Jeffries, $59.10; 143, R. D. Joyce, $15.00.

Dept. 985, T. M. Kriegh, $139.50; 015, J. E. Leech, $15.00; 015, R. R. Mangum, $41.00; 045, C. R. Mansfield, I. R. Quillin, $27.35 each (joint award); 149, M. M. McPherson, $15.00; 015, P. V. Mixon, $15.00; 400, T. E. Njos, $92.80; 761, L. L. Ripley, $15.00; 059, R. Rodrigues, $16.30; 979, L. Roesner, $15.00; 141, J. D. Scherkenback, $37.50; 572, F. W. Sickler Jr., $519.60; 191, K. M. Stockett, $15.00; 015, L. W. Tracy, $15.00; 045, E. Villegas, $15.00; 191, V. Woll, $15.00; 780, J. R. Woolstenhulme, $15.00; 059, R. C. Zinser, $68.80.

Employe Suggestion awards approved for the week ending Oct. 25.

Dept. 733, E. S. Abbott, $15.00; 780, W. C. Alther, $15.00; 955, A. Barnhard, $92.20; 401, R. J. Benker, A. J. Dadisman, $9.35 each (joint award); 401, H. Bishop, $15.00; 962, W. O. Bowman III, $932.80; 027, M. H. Button, $88.40; 143, A. M. Contreras, $42.40; 141, J. A. Crush, $326.30; 578, C. C. Crush, $52.25; 027, D. Danforth, $50.40; 953, J. A. DeGrazier, $15.00; 027, J. L. Entsminger, $15.00; 975, C. D. Fitzpatrick, $73.55; L. B. Gilmore, $15.00.

Dept. 553, D. N. Hawk Jr., $54.00; 517, L. Hawson, $55.00; 031, G. R. Hill, $35.60; 001, S. J. Jachimowicz, $64.60; 019, R. F. Lanzo, $15.00; 027, M. Matthews, $196.60; 130, W. L. May, $15.00; 733, W. J. Mars, $15.00; 015, J. K. McDonough, $105.30; 001, G. E. Merrick, $40.00; 015, S. Midullo, $15.00; 454, R. J. Moe, $44.10; 049, W. C. Pahl, $15.00; 756, F. E. Rogers, $52.25; 420, M. E. Sisley, $35.10; 027, L. R. Stevens, $315.90 (six awards); 975, R. J. Surber, $73.55; 401, L. Trentacosta, $15.00; 979, H. R. Van Wie, $15.00; 533, R. P. Waligorski, $95.90; 141, G. J. Williams, $15.00; 027, T. L. Wright, $50.40; 027, E. E. Yturralde, $88.40.

In-Plant Training

ORIENTATION

NEW EMPLOYEES — Educational services staff.

Kearny Mesa: ext. 1931, Bldg. 17, Room 7, Monday, Nov. 18, 8 a.m. for 1st shift. Tomorrow, 4:30 p.m. for second shift.

Lindbergh Field: ext. 491, Bldg. 14 auditorium, Monday, Nov. 14 and 21, 8 a.m. for 1st shift. Today, Nov. 6, 4:30 p.m. for second shift.

PROFESSIONAL/TECHNICAL

PROGRAMMED SELF-STUDY—A limited number of programmed texts covering many subjects are available in the educational services office, Bldg. 17, Kearny Mesa. These may be checked out for home study. Educational services office hours are 8 a.m. to 4 p.m., ext. 1931 KM.

Retirements

CONVAIR

BURBAGE — Callie D., Dept. 113-0. Seniority date July 30, 1954, retired Sept. 2.

CLEGHORN — Sesylu E., Dept. 832-1. Seniority date Dec. 12, 1950, retired July 26.

GERSHON—William, Dept. 961-8. Seniority date March 6, 1961, retired July 29.

LEFFORT — Norman C., Dept. 565-3. Seniority date Nov. 3, 1959, retired July 16.

OAKERSON—Dorothy A., Dept. 840-1. Seniority date Feb. 13, 1951, retired Oct. 11.

SCHMIDT — Walter W., Dept. 250-3. Seniority date Jan. 14, 1957, retired Oct. 11.

SCHRAUD—Mae R., Dept. 763-1. Seniority date Feb. 4, 1957, retired July 10.

Births

CLINGER — Daughter, Jennifer, 10 lbs., born Oct. 26 to Mr. and Mrs. John Clinger, Dept. 517-0.

Division Earns Security Honor

(Continued from Page 1)

and 25 "certificates for excellence" — were presented throughout the nation.

Wisdom, at the awards ceremony at Kearny Mesa, said industrial security Dept. 130-1 last fall established winning of the Cogswell Award as one of its 1968 objectives and expressed appreciation to Sharp and his employes for "an outstanding job."

Sharp cited Earl E. Riley, supervisor of industrial security; security officers R. J. Cook, Al Gayton, Jack Albright and Les Arvitt; guard supervisor Al C. Gates, and departmental secretary Barbara Carlin for exemplary efforts.

Plant guards were recognized and represented at the ceremony by Jack Gaskins and E. F. "Mike" Feeney.

Sharp also expressed appreciation to Joe Sullivan, chief of the DCASR-LA industrial security office, and his staff and Col. Charles F. Merz, DCAS plant representative, and his personnel for their assistance to the division's security program.

Convair and its launch vehicle programs' Vandenberg AFB operations were considered as competitive organizations for Cogswell Award nominations from DCASR-LA.



BANNER OCCASION—Convair's Craftsmanship Achievement banner for third quarter in engineering went to instrumentations system (Dept. 544-4). Shown are Dan Applegate, left, director of product design, Lyle McClain, John Lievens, Orison Wade.

Instrumentation Systems Wins Engineering Craftsmanship

Engineering's instrumentation systems (Dept. 544-4) has been awarded Convair engineering department's Craftsmanship Achievement banner for outstanding efforts in exceeding department goals through the third quarter of 1968.

F. D. Applegate, director of product design, presented the banner on behalf of E. R. Peterson, vice president, research and engineering, to Lyle McClain, instrumentation group engineer, in ceremonies Oct. 25 at LF Bldg. 5.

Applegate said the award was based on the fact that instrumentation systems performed best in keeping with the intent of the Craftsmanship program.

Cited were such factors as below average absenteeism, maintaining a level of 80 per cent recoverable data per instruction flight, reducing manpower forecasting errors and exceeding goals submitting employe suggestions.

"Your challenge was made more difficult in that you have work areas both on and off-site and I commend you on your ability to overcome this disadvantage," Applegate said.

In addition to the banner, retained only so long as the unit holds the honor, a permanent plaque denoting winning of the award was presented McClain for the instrumentation systems group.

Electronics-SD Men Attend Conference

Four Electronics-SD men attended a one day management conference last month at the Caltech campus in Pasadena.

Co-sponsored by NMA and Caltech, sessions in "Living and Growing with Change," were attended by P. H. Teeter, estimating; L. B. Butler, data translation; J. R. Blackwood and M. E. Sheskey, F-111 AGE.

Three Receive Saving Awards

Convair Management Club cost reduction awards for July, August and September were presented last month at the club's "Presidents Night" meeting at the Bahia Hotel.

Jack Bowers, division general manager, made the presentations.

Kenneth C. Lejman, Dept. 967-9, received the July award for modification of surplus Atlas-Centaur telepac housings instead of design and fabrication of new ones. Firm-contract cost avoidance was $89,389.

Kenneth J. Walker, Dept. 001-0, received the August award for revising work flow and arranging for each of three shot peening machines to use only one size of shot. Saving was estimated at $21,084.

James R. Spurgeon of Dept. 511-9 received the September award for action that resulted in revision of specifications for sealing external F-111 fuel tanks for a saving of $43,678.

CENTAUR SHOWN AT OPEN HOUSE

A Convair-built Centaur space launch vehicle was among featured attractions at drive-through "open house" tours three Sundays last month at NASA's Plum Brook Station near Sandusky, Ohio.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Continued from Page 1)

Q—Will LF ever get an in-plant cafeteria? The present one is too far from employes at the north end of the plant.

A—None is planned at this time, though a plan is under way to improve canteen service, including preparation and serving of hot food.

★ ★ ★

Q—Could the LF cafeteria post a weekly menu so that those who "brownbag" could pick days to leave their lunches at home?

A—Menus will be posted every Friday in the LF cafeteria patio area (as well as on the bulletin board near the KM cafeteria exit).

★ ★ ★

Q—Will the maximum allowance for educational refunds to employes be increased to correspond with new increases in course and tuition costs?

A—The tuition refund program is being reviewed in the light of increased tuition costs. Changes, if any, will be made by Jan. 1, 1969.



BANQUET SPEAKER—Roger Lewis, General Dynamics president, is shown delivering main address to National Management Association's annual convention in Fort Worth, Texas, last month. Capacity crowd attended banquet climaxing week-long sessions.

Management's Social Responsibilities Listed By Lewis in Talk to NMA

Meeting the technical revolution created by the atom and the electron is one of industrial management's most formidable challenges today.

So said Roger Lewis, General Dynamics president, at the National Management Association's annual convention, held in Fort Worth, Texas, last month.

"This is of enormous import," Lewis said.

"It is forcing us to re-examine society in an era where there are more questions than answers.

"Still, we must run the store, provide for ample defense and education, and make sure we prosper and grow."

Lewis said meeting this challenge is but one of many "social responsibilities of management."

"The first and biggest responsibility," he said, "is to run our business. And we have to make sure of a reasonable profit for future growth."

The GD board chairman stressed the need for industrial management to "satisfy human needs and aspirations.

"We must give persons of character and talent room to grow," he said, "and we must even go a step further and motivate those who don't know where they want to go.

"We must see to it that our employes understand the nature of the enterprise," Lewis said. "It's not enough that a person is say, a draftsman. He needs to know how his efforts tie into the end product. He needs a purpose, a sense of mission."

Lewis said management must obviously recognize the imperatives of high employment, mutual dependence, greater productivity and sufficient national defense.

"Specifically," Lewis noted, "business must also help solve the problems it helps create — such as air and water pollution."

Lewis said private enterprise also is obliged to help non-profit organizations and to encourage its employes to be good citizens.

"Without participation in community affairs, a business is not healthy," Lewis said. "A plant is really no better than the community in which it operates."

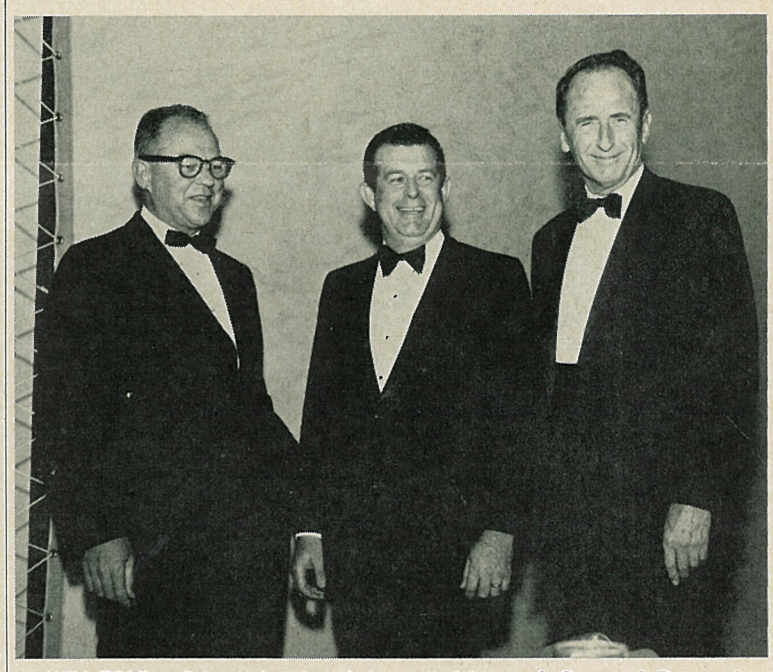
Lewis stressed that management is obligated to assist disadvantaged people who have legal but not economic equality in the community.

"Not only the disadvantaged, but unskilled persons who have left the farm for the city, must be assimilated in the labor force," he emphasized.

Lewis, who is chairman of the national Plans for Progress effort, said a number of companies have done well under the Plan.

"Many of these companies are glad they participated," he said, "and they've found they could do more than they thought they could. By and large, these firms see a chance of doubling their effort.

"But private enterprise has to make the effort. The government should take over only after private enterprise has done everything it can do."



KEY TRIO—Roger Lewis, right, president of General Dynamics, Frank W. Davis, left, president of Fort Worth division, and John Howell, president of Fort Worth Management Association, get together at national NMA convention.

Youth Accented in AMA Convocation On 'Society, Leaders in Transition'

General Dynamics representatives selected to attend the American Management Association's annual meeting in New York City recently reflected an "accent on youth" in keeping with the AMA Convocation's theme of "Society and its Leaders in Transition."

Present to hear such featured speakers as David Lilienthal, Elmo Roper, Jack Vaughn and Ted Sorrenson, were nine from GD that included a small cross-section of General Dynamics' own young "leaders in transition," representative of a growing element in management throughout the Corporation.

Representing Corporate Headquarters were Algie A. Hendrix, vice president, Dave Thomas, Corporate comptroller, and Arch Rambeau. The others, all products of GD intern or associate development programs and typical of a great many more young individuals scattered throughout the Corporation, were:

Robert Hall, Convair; David Murray, Stromberg-Carlson; William Strasen, Pomona division; William Strock, Fort Worth division; Michael Watters, Electronics division; Hal Foley, Electric Boat.

Among questions discussed during the day-long sessions at the Waldorf-Astoria were: "Are the young leaders of today prepared to take on the burdens of social, economic and moral leadership?" "What can be done to foster a healthy spirit of understanding and cooperation between the established and rising generations of leadership?"

Comment from young GD men following the Convocation program included:

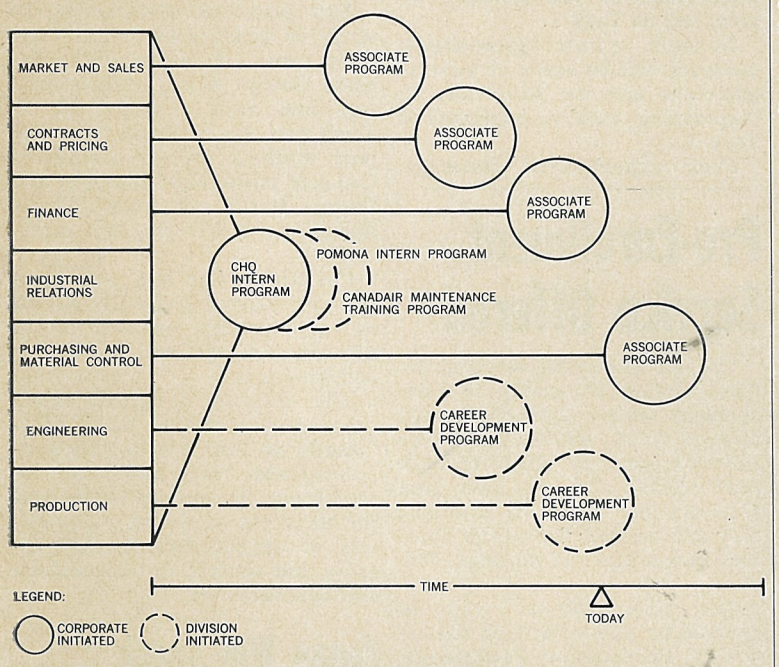
"The overriding theme was that the problems of today can be solved through emphasis on human values . . ."

"Just as there are anxious young leaders seeking changes on a national level, there also must be young leaders with ideas for changes within the General Dynamics family . . ."

"If our top Corporate and division management . . . demonstrates a humanitarian concern (on hard core issues and social problems) many of our capable but silent employes will respond in their own ways."

"Private business is becoming more socially responsible. Profit and loss thinking is mandatory, but profits can be achieved while extending a helping hand to our fellow men . . ."

Corporate, Divisional Internship, Associate Development Programs



SPREADING—Diagram indicates growth of intern/associate development programs in General Dynamics, stemming from Corporate Intern program established several years ago.

Roger Lewis Receives NMA's Highest Award

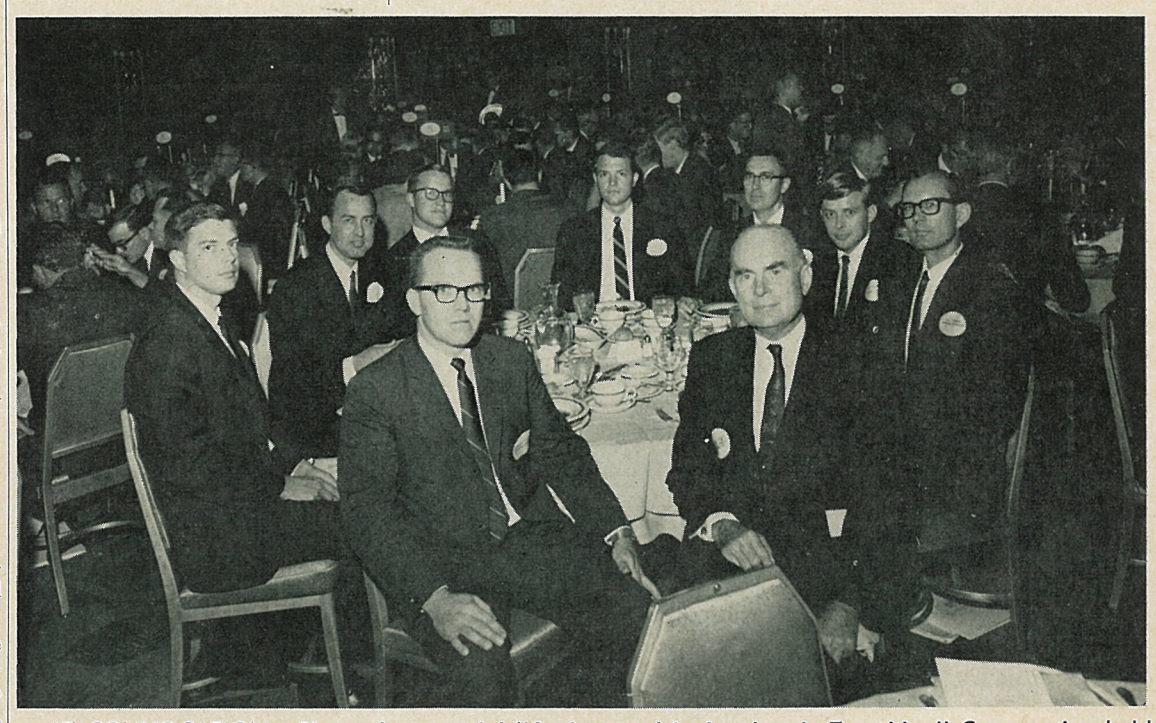
The National Management Association's "Silver Knight of Management" award was presented to Roger Lewis, president of General Dynamics, at the Convair Management Club's Oct. 16 meeting in San Diego.

The award — highest honor bestowed by NMA on outstanding men of management — was presented by Bill Chana, Convair Management Club president.

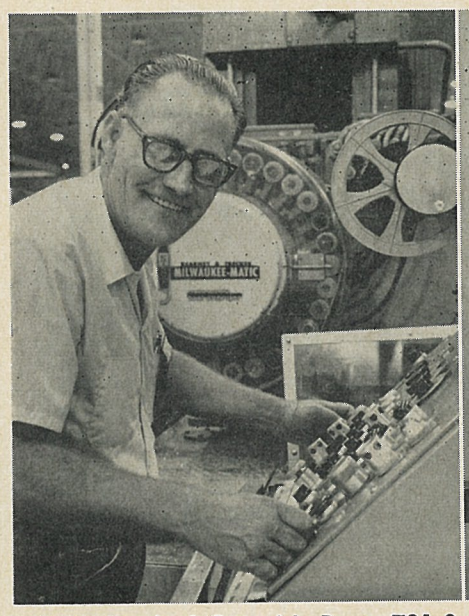
Lewis was guest speaker at the "President's Night" meeting, attended by 635 club members and guests.

Among those attending were officials of General Dynamics operating units in the San Diego area and at Vandenberg AFB, presidents of seven management clubs and the NMA area council, and 15 past presidents of the Convair Management Club.

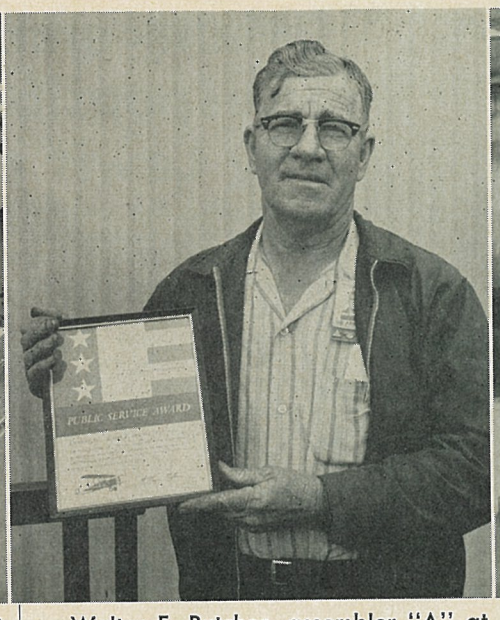
Jack L. Bowers, Convair division general manager, presided.



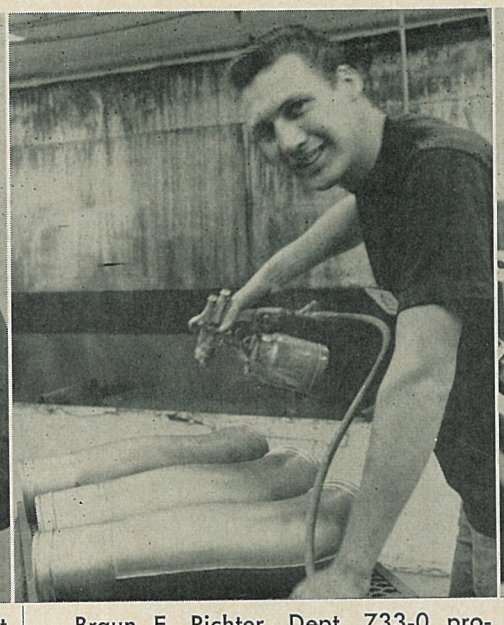
AT CONVOCATION—Pictured at special "Society and its Leaders in Transition" Convocation held by American Management Association in New York City are these General Dynamics representatives. Foreground, Hal Foley of Electric Boat and Algie A. Hendrix, Corporate vice president. From left, background: Robert Hall, Convair; Arch Rambeau, Corporate HDQ; Dave Murray, Stromberg-Carlson; Mike Watters, Electronics division; Dave Thomas, Corporate comptroller; William Strock, Fort Worth division; William Strasen, Pomona division.



R. E. Boyd of Convair's Dept. 731-0 is shown operating versatile three-axis machine equipped with an automatic tool changer in KM factory. Punched tape is being used to control complex metal drilling operation. Boyd, a native of Oklahoma, has been with Convair 12 years, formerly worked for a precision tool company in Wichita, Kan., and was in England, Belgium, Czechoslovakia and Germany while in the Army in World War II. He lives with his wife, Marguerite, in East San Diego.



Walter F. Butcher, assembler "A" at LF ramp, displays Public Service Award recently presented to him by U.S. Post Office in recognition of "his vision, courage and devotion to duty as one of the Air Mail Pioneers . . ." Butcher was field manager at Des Moines, Iowa, during early days when Postal Department operated air mail routes. Butcher is also a veteran of 28 years with Convair, working on the flight line and in the experimental shop. He plans to retire next year.



Braun E. Richter, Dept. 733-0 production painter, was snapped applying primer coat to F-111 duct assemblies in KM factory. Richter has been painting for 10 years—including previous work for new and used car dealerships and an auto body shop in San Diego area. He is a Crawford High School graduate and holds certificates for painting and auto body and fender work from San Diego City College. He lives in Redwood Village with his wife, Pam and two children.



Lynda Kersten, IBM keypunch operator in Convair's Dept. 101-6 at KM for the past year, changed her name in August to Mrs. Wayne Piech. She is a 1965 graduate of El Capitan High School in Lakeside, attended Kelsey-Jenney Business College in San Diego and says a keypunch operator's job is "ideal" for young women. She lives in La Mesa and does a lot of spare time reading to keep up with new developments in the computer field. She also enjoys interior decorating.

Subtle Touch

Telling a Story With Flowers Aim of Japanese Art Form

Some use a paint brush to tell a story, others use typewriters, but a Convair wife, following a centuries-old Japanese art form, uses flowers and subtle arrangements to portray a scene or a sentiment.

Known as "Ikebana," the technique is difficult to master, particularly for one not raised in



FLOWER MASTER—Mari Morgan, wife of a Convair engineer, has mastered centuries-old Japanese art form of Ikebana or flower arranging.

Japanese culture, says Mari Morgan, wife of Frank Morgan, modification engineer in Dept. 533-2 at Lindbergh Field.

Ikebana is the ancient art of flower arrangement that has been cultivated for centuries in Japan. "It is an approach to the use of growing plants to interpret and express the things of beauty seen in nature around us," she said.

Mrs. Morgan first became interested in Ikebana while in Hawaii, where her husband was stationed on naval duty.

"The Japanese philosophy on life and its relationship with the arts intrigued me and I soon developed a great deal of interest after viewing several exhibits," she said.

"Symbolism plays a large part and the object is to catch a story or a feeling and express it — an old man watching a sunrise, a child talking to his mother."

Flowers and plants have special meanings which the Japanese understand and can interpret when viewing arrangements. A rose, for instance, represents a beautiful, but nervous woman. Bamboo illustrates great flexibility and strength under adversity. White mums reflect water running down a mountain, etc.

Mrs. Morgan has been a student of the art for more than 20 years and was asked to study in Japan because of her talent. Few Caucasians have been accorded the honor.

She received private instruction at the Rokakudo Temple of the Ikenobo Institute of Fine Arts in Kyoto. After completion of her studies, she was awarded a certificate and granted the title, "Jun Kakyo," which means "teacher."

Since returning from Japan, Mrs. Morgan has continued her studies in San Francisco under Madame Nomuro, an 86-year-old master of the art. She plans to return to the Ikenobo Institute in 1969 for further study.

Ehricke to Speak For AIAA Meeting

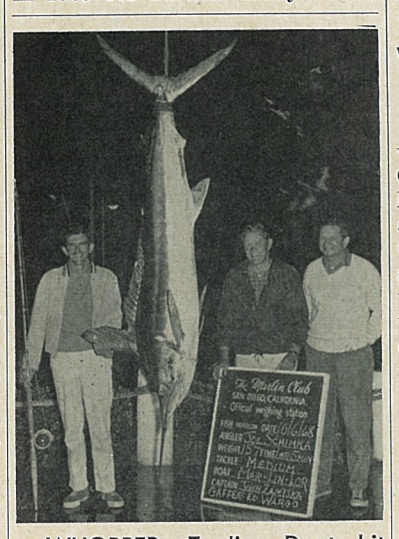
Krafft Ehricke will speak on "Space Applications" at a meeting of the American Institute of Aeronautics and Astronautics (AIAA) Nov. 20 at Hanalei Hotel.

Social hour begins at 6 p.m. with dinner at 7.

Call Mari Dee KM ext. 2005 for reservations.

CHAMBER REPS VISIT CONVAIR

Representatives of the San Diego Chamber of Commerce and the San Diego chapter of the Navy League were guests of Convair division Oct. 28 for lunch and a briefing on division programs and future plans. Jack L. Bowers, Convair general manager, was host.



WHOPPER—Tooling Dept. hit deepsea jackpot recently. Joe Schimka, left, Dept. 401-5, battled hour and five minutes before landing this 157-lb. marlin. Bringing fish to gaff was Ed Wargo, right, Dept. 401-5, while skipper of boat was John Zamiska, center, Dept. 400-2.

Reading Efficiency Courses Offered In San Diego Area

"Speed reading" and similar reading and comprehension improvement courses are being offered through San Diego educational institutions.

Several "reading efficiency" courses are scheduled each semester by San Diego Evening College. Cost is $1.50 and students are assigned to classes based on entering reading speed and comprehension levels.

Midway Adult School will have nine-week "reading improvement for adults" courses beginning Jan. 13 and March 13. Classes meet twice weekly and there is a $15 fee.

Patrick Henry Adult School at 6702 Wandemere Dr. in the San Carlos area has a nine-week "reading improvement" course from 6:30 to 9:30 p.m. Wednesdays beginning today (Nov. 6). Fee is $5.

University of California Extension offers 10-week "improvement of reading for adults" courses during most school quarters. Cost is $45.

University of San Diego has six-week "reading efficiency" courses scheduled periodically at a cost of $75. Current classes began Oct. 28 and are scheduled at noon and 4:10 p.m.

Convair educational services has self-study combination book and phonograph record course materials that may be checked out without charge.

Phone Everett Lindem of educational services, ext. 1931 KM.

Tests Pass For Year of College

Robert Cameron, director of the western regional office of the College Entrance Examination Board in Palo Alto, and Jose Toro, assistant director of the board's Council on College-Level Examinations in New York, recently met with students in "Human Relations" and "Introduction to Supervision" courses at Convair's LF plant to discuss College-Level Entrance Program (CLEP) tests.

The tests administered nationally, enable adult students to receive up to one year of college credit for passing grades on test sections in English composition, the humanities, math, natural sciences and social sciences.

Toro said adult students, because of knowledge they have obtained outside the classroom often consider freshman college courses a "waste of time." Cameron called Convair "years ahead of everyone else" in its in-plant educational programs.

Gravity-Sensitivity Predictions Included in New Study For NASA

Convair division's life sciences Dept. 592-0 has been awarded a $90,000 contract from NASA's Langley Research Center for a 14-month study to determine analytical and experimental methods to be applied in design of future life support systems to assure satisfactory performance in the absence of gravity.

A handbook for reference in design and analysis of future spacecraft life support systems will be produced as part of the study and will include data and techniques for predicting or assessing gravity-sensitivity.

John R. Burnett, a Dept. 592-0 design specialist, is project leader for the study, composed of three major tasks.

Present and realistically forseeable future gravity-sensitive life support system processes will be evaluated and their relative importance to one another determined in Task 1.

In-depth gravity-sensitivity analyses will be made of selected processes and the handbook, incorporating results, published in Task 2.

Four experimental investigations will be undertaken in Phase 3 to supplement the analytical studies. These will involve liquid release from heat exchanger fins such as those associated with a condenser, liquid parallel-passage plugging in a heat-exchanger core, liquid film stability and drag testing, and convective heat transfer under various gravitational conditions.

Burnett said analytical techniques provide the first, least expensive and sometimes only method of determining performance of processes or components under low-gravity conditions prior to actual space flight test.

"The designer and analyst for future life support systems, in the handbook we will be developing, will have a comprehensive set of analytical tools, techniques and relationships for assessing and predicting gravity-sensitivities," he said.

Key personnel working on the study, in addition to Burnett, and their areas of responsibility include George Wood, experiments, test and data analysis; C. D. King and E. J. Russ, life support systems process identification and parametric analysis, and George Drake, consultant. Frank Booth is NASA program monitor.

Convair earlier this year completed a related study for NASA on zero-gravity capabilities of life support system components and processes.

The division designed, fabricated and delivered to NASA-Langley in 1965 a closed-life-support-system "test bed" for research use. It contains equipment for recycling of water, regeneration of oxygen from carbon dioxide and control of temperature and contaminants.

Pre-Enrollment Service Offered

Convair personnel working toward master of science in management science degrees through in-plant U. S. International University's graduate school of business courses and who have been accepted for graduate standing may pre-register for winter quarter classes Nov. 17 through Dec. 6.

The pre-enrollment will be handled by phone through the office of Dr. Andrew Papageorge, assistant dean of the graduate school, 279-4300, ext. 257. Others are to register on campus Dec. 7 through 20.

Two sections of "Statistical Decision Theory" in the degree program will be offered at the KM plant beginning Jan. 6. Dr. Tore Tjersland will teach one section from 5 to 7:30 p.m. Mondays and Wednesdays and Dr. Kwang-Wen Chu the other from 5 to 7:30 Tuesdays and Thursdays. Both will meet in Bldg. 26, Rm. 1.

David Chigos of educational services said 60 employes who have taken the national admissions test for graduate study in business to qualify for graduate standing with the university had an average score of 556 — placing them among the top 15 per cent of entering graduate students in the nation.

Fagan Will Speak At QC Gathering

"Top management's view of quality control and reliability" will be theme for a dinner meeting of the San Diego section of the American Society for Quality Control at 6:30 p.m. Monday (Nov. 11) in the Bronze Room, La Mesa.

Executives from four local aerospace firms will speak and participate in a panel discussion and question and answer period.

Donald L. Fagan, manager of Kearny Mesa plant operations for Convair, will speak on "What we expect from reliability and how does it pay off?"

Surface finish measuring equipment will be displayed prior to the meeting. Tickets are available through ASQC boosters.

Convair Hosts Quality Meet

Sixty-four General Dynamics and "customer" representatives attended a procurement quality control "upgrade training program" sponsored by Convair division and the San Diego section of the American Society for Quality Control Oct. 25 at the Sands Hotel.

Sam Braun, chief of procurement quality verification for Convair, said the program was designed primarily to give a new perspective and knowledge to Convair outside inspection representatives from across the country and then provide them with an opportunity to discuss problems encountered during the past year. Emphasis was on F-111 procurement quality control.

Also attending were representatives from the Defense Contract Administration Services plant representative's office, Air Force Space and Missile Systems Organization, Electronics-SD and Convair procurement quality engineering, purchasing, reliability control and engineering departments.

Col. Charles Merz, DCAS plant representative, spoke briefly. The group was welcomed by L. I. Medlock, Convair director of reliability control, and R. S. Campbell, manager of procurement reliability control.

Speakers and discussion areas included J. M. Rogers, F-111 procurement aspects; H. F. Von Goodat, F-111 engineering data; Sam Witkoff, special processing requirements; J. J. Swarts, DC-10 program; E. C. Gordon, tooling requirements and control; P. E. Gelles, personal development planning.

Also, W. G. Lux, cost savings proposals; W. E. Herring and L. G. Menches quality requirements for castings and forgings; R. J. Hendrickson, approved sources for special processing; Gordon, close-tolerance measurement techniques; F. R. Glick, hydraulic and pneumatic systems requirements; Braun, corporate interchange of services activity; J. F. Baebler, new programs; G. A. Knauss, planning for quality verification.

Atlas Assists TV Coverage

Convair division had an indirect role in Olympic Games television transmission to Europe.

NASA's Applications Technology Satellite-3, launched in 1967 by Convair's Atlas SLV-3 No. 5103 and an Agena second-stage vehicle, was used to beam the Olympic TV coverage from Mexico City to Goonhilly Downs, England, for distribution throughout Europe.

Voice commentary in many languages to accompany the TV transmissions went by land line to Nova Scotia, then to the Early Bird satellite for relay to Pleumeur Bodou, France, for distribution.

The ATS-3 satellite is "parked" in synchronous orbit 22,300 miles over the Atlantic near the mouth of the Amazon River in South America.

Specialist Speaks About Leadership

David Chigos, education specialist in Convair Dept. 130-3, discussed "Styles of Leadership" and "Analyzing Your Leadership Style" Oct. 28 in Imperial, Calif., at a session of the 15th Management Institute for Executives and Managers, sponsored by University of California Extension and the San Diego chapter of the American Society for Training and Development.

Two Convair employes — J. A. Dematteis of Dept. 193-1 and L. Roy Gilmore of Dept. 202-1—are attending a 10-week institute program which began Oct. 11 at the UCSD campus in San Diego.

Jack Croft, chief of educational services for Convair, is a member of the Institute planning committee.



"PHOTOGENIC" HONORS—Winners of CRA Camera Club "Miss Photogenic" competition were, from left, Doris Wisdom, second runner-up; Shirley De Court, first; Mickey Donahoo, first runner-up.

Submarine Pilot's Wife Wins Club's 'Miss Photogenic' Title

Shirley De Court, wife of Bill De Court, an Electric Boat division submarine pilot at the General Dynamics Marine Technology Center in San Diego, was chosen "Miss Photogenic" in a CRA Camera Club photography contest.

Mickey Donahoo, daughter of Clyde Donahoo of Dept. 142-1, and Doris Wisdom, Dept. 113-0 department clerk at Lindbergh Field, were runners-up. Bruce Williams of Dept. 170-1 was contest chairman.

Other contestants were Denise Little, Susan Albone, Peggy Hopkins, Cheryl Mortera, Brenda Joyce Carmack, Cindy Komos, Susan Miller and Judy Watson.

Jim Mildice, Camera Club commissioner, won two trophies for the best black-and-white print and color slide in a club-sponsored salon show in the Photo Arts Building in Balboa Park.

The Camera Club, which meets at 8 p.m. the first and third Sundays each month, has a well-equipped photo lab in the CRA Clubhouse. Next quarterly contest will be Nov. 17 with trophies being awarded for best slides and prints in beginner and advanced divisions.

Delta Divers Prove Top Hands In Bagging Spiny Sea Urchins

CRA Delta Divers teams took first and second places by bringing in about 2,500 spiny sea urchins in a San Diego Council of Diving Clubs-sponsored dive Oct. 20 at La Jolla Cove.

The first team—Loren Batchman, Peter Smith and Jorge Zorrilla — picked up 641 pounds of the spiny creatures and the second team—Bob Nichols, Bill Howard and Harold Reeser — gathered 573 pounds. Average weight of sea urchins is about ½ pound.

Leather gloves and burlap bags were used in collecting the spiny creatures in 20 to 30 feet of water during the 2½-hour dive — the second sponsored by the Council to clear an area of the cove. The urchins consume new kelp and other food needed by more useful marine life.

A total of 3,396 pounds of sea urchins were brought ashore in the dive, bringing total for the two dives in the same area to about 7,500 pounds.

The sea urchins were sold to the Sons of Italy society with proceeds going to the Council of Diving Clubs. Eggs removed from the spiny creatures are considered a gourmet delicacy by many European groups.



HUGE HAUL—Spiny sea urchins are displayed by CRA Delta Divers' first team (from left) Jorge Zorilla, Peter Smith and Loren Batchman. They picked up 641 pounds of the little creatures.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is Nov. 12. Call ext. 1071 LF or 3322 KM. All meetings are held in CRA Clubhouse unless otherwise noted.

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ADVENTURERS — Meeting, Nov. 20, 7:30 p.m., slide program. Four day trip to Pinacate region in Sonora, Mexico, beginning Nov. 28.

BASKETBALL—Deadline for rosters, Nov. 21. 7 p.m. at meeting for Clubhouse.

BICYCLE CLUB—Lake Hodges 50-mile ride, Saturday, Nov. 9. Leave 7:30 a.m. from Miramar Road and Highway 395.

BONAIR FLYERS—Meeting tomorrow, Nov. 7, 7:30 p.m.

BRIDGE — Duplicate bridge sessions each Friday, 7:30 p.m.

CAMERA CLUB — Meeting, Nov. 16, 8 p.m., Photo Arts Bldg., Balboa Park. Quarterly contest for prints and color slides.

CERAMICS — Meet each Tuesday and Thursday, 7-10 p.m.

CHESS—Play each Wednesday, 7 p.m.

COINEERS—Meeting Nov. 20, 8 p.m., Lindbergh Field cafeteria.

FENCING — Workouts and instruction Friday, 7:30-10:30 p.m.; YWCA, 10th and C Sts.

FISHING—Potluck Tuesday, Nov. 19, Gillespie Field Clubhouse, 6:30 p.m. Turkey furnished by club; meeting 7:30 p.m.

GARDEN CLUB — Meeting, tonight, 7:30 p.m. in Floral Bldg., Balboa Park.

GOLF—"Turkey Shoot," Rancho Bernardo, Nov. 23-24.

HEALTH CLUB — Open 9:30 a.m. to 10 p.m., Monday through Friday; 10 a.m. to 5 p.m., Saturdays. Call ext. 1111 KM.

HI/FI MUSIC — Meeting, Nov. 12, 7:30 p.m.

ICE SKATING — GD family skate nights Thursdays, 6:15-7:45 p.m.; Mission Valley Ice Arena.

MINIATURE RAILROAD — Operating sessions Saturdays, Sundays and holidays, CRA Missile Park.

PISTOL CLUB—Next shoot, Nov. 10, 9:15 a.m., S.D. Police Pistol Range.

RIFLE CLUB — Seniors shoot second and fourth Wednesday, 7 p.m. Juniors shoot first and third Saturdays, 9 a.m., Gillespie Field Range.

SAILING CLUB—Meet fourth Wednesday each month, 7:30 p.m.

SQUARE DANCE CLUB — Dance 8-10 p.m. each Thursday.

STAMP CLUB—Meeting, Nov. 14, 7:30 p.m.

WOMEN'S GOLF — Nov. 9 tourney, Singing Hills, Tee-off, 9:30 a.m.

Chorus Planning Xmas Program

Members of the General Dynamics Chorus plan to make the coming holiday season happier for patients in three San Diego area hospitals. Singing engagements have been scheduled Dec. 11 at Naval Hospital, Dec. 18 at University Hospital and Dec. 20 at Mercy Hospital.

Additional singers are needed. The chorus meets from 7:30 to 9 p.m. Mondays in CRA Clubhouse. Don Jackson, a San Diego City Schools music instructor, is director.

Jim Pate, commissioner, said membership is open to all General Dynamics employes and family members over 15 and that friends of employe families also are invited.

The chorus includes a barbershop quartet.

Dan Nehrer is president and Jo Ann Bray is secretary.

Three Share Pistol Honors

Warren Walker, Bill Worthington and Don O'Brien took class honors in recent Convair division Pistol Club competition at the San Diego Police range.

Walker was first in master competition with a 290-10x. Runner-up was Jim Halfacre with a 289-9x. Worthington's 277-6x topped the expert class. Second place went to Dale Young (264-3x) and third to Russ Frazier (263-3x).

O'Brien prevailed in the .22 caliber short national class with a 281-4x. Trailing him were Walker (273-2x), Halfacre (272-3x) and Bill Dittmann (246).

Cyclists to Skirt Lake Hodges Saturday

CRA cyclists will pedal around Lake Hodges on a 50-mile tour Saturday (Nov. 9). The group will leave at 7:30 a.m. from Miramar Road and Highway 395 and pedal along Pomerado Road, through Poway, around the lake and return through Rancho Santa Fe and along El Camino Real and Sorrento Canyon and Miramar Roads.

Phone Dave Lukens, ride leader, ext. 2881 KM or (home) 277-7350, for additional information.

Twosomes to Compete For Turkey Prizes

CRA Golf Club will award 14 turkeys to winners of a Pinehurst tournament "turkey shoot" Nov. 23 and 24 at Rancho Bernardo CC.

In Pinehurst play, two golfers pair as a team. After selective drives, players alternate shots.

Merchandise prizes will be awarded for closest-to-pin on par 3 holes and for longest drives.

Phone ext. 511 LF between Nov. 13 and 22 for starting times.

ADVENTURERS CLUB TO SEE SLIDES OF SCALING EXPERIENCE

An outstanding rock-climbing team will present a taped color slide program on wall climbing at the CRA Adventurers Club meeting on Wednesday, Nov. 20, 7:30 p.m. in the CRA clubhouse auditorium.

Program is entitled, "The Climber's Experience," and will be presented by Dennis Hennek and Don Lauria. Slides will deal mainly with wall climbing in Yosemite Valley, featuring the second ascent of the North American Wall.

Hennek and Lauria became the first two-man team to conquer North American Wall, a 3,000-foot climb up the forbidding, granite southeast face of El Capitan in Yosemite National Park.

Hennek is manager of the West Ridge Mountaineering Store in Los Angeles. Lauria teaches engineering and math at El Camino College and is section chairman, Southern California American Alpine Club.

Additional information on the program can be obtained by contacting John R. Anderson at Lindbergh Field, ext. 1567.

Coineers Spotlight Scouts, Activities

"Scouting" will be theme for the Convair Coineers meeting at 8 p.m. Nov. 20 in the Lindbergh Field cafeteria.

Employes who are scoutmasters and their troops are invited. Those interested should phone H. F. Jennings, ext. 1176 LF, during the day or H. D. Musick, 264-8559, after 4 p.m.

Door prizes and free coins will be awarded, a drawing will be held and refreshments will be served.

Club to Hear Talk On Tape Recording

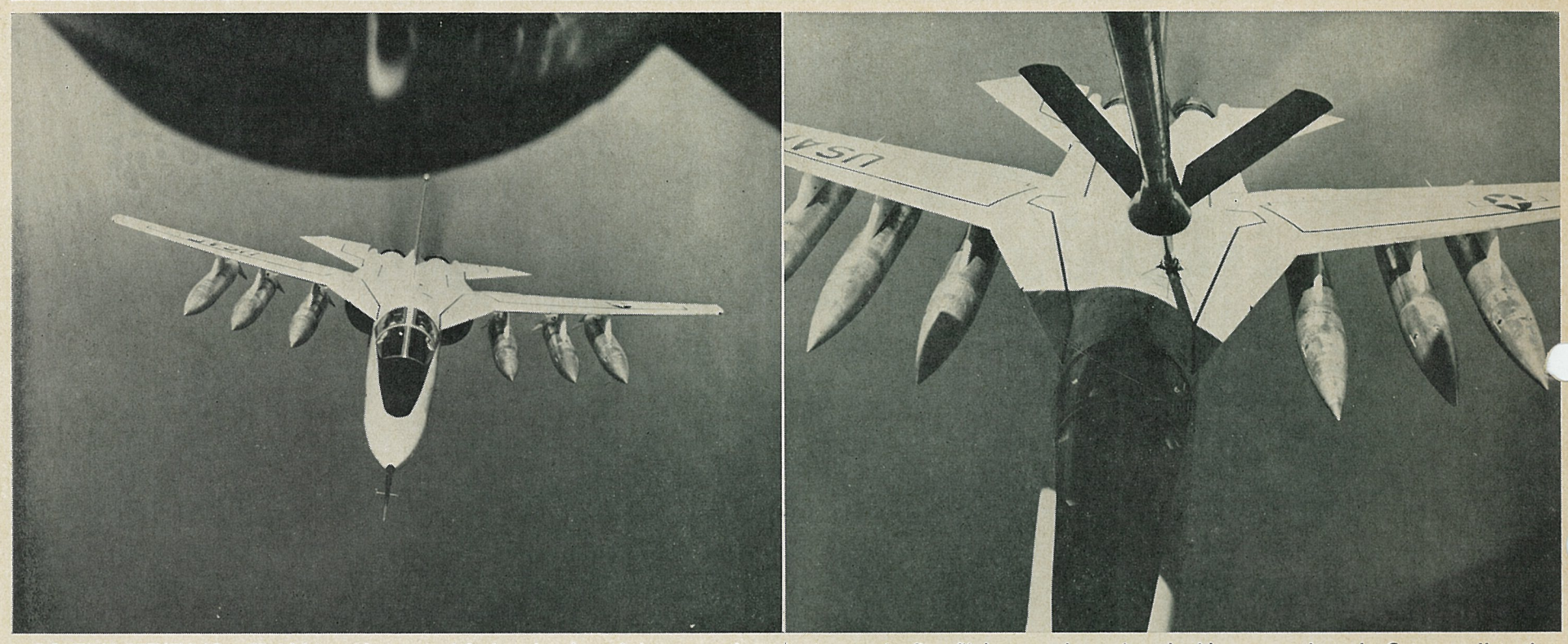
Tape recorder specifications will be discussed by A. J. Somerville, program chairman, at a meeting of the CRA Hi-Fi Club at 7:30 p.m. Nov. 12 in the CRA Clubhouse.

Club officials said a good quality recorder is a "must" for use in copying the club's music library and that the meeting will be of particular interest to those planning to purchase new recorders.

Guests are invited. Two turkeys will be given as door prizes.

Salvage Schedule

Next employes sales day at the Convair salvage yard, Lindbergh Field plant, will be Saturday, Nov. 9. Hours are from 8 a.m. until noon. Entrance is by badge. Children and pets are not allowed inside the yard.



ROUTINE REFUELING—FB-111A, with external fuel tanks aboard, keeps rendezvous with an Air Force tanker. Production aircraft No. 2 of strategic bomber version made first flight recently equipped with new engines. In Category II testing, FB-111A No. 1 is undergoing systems evaluation.

F-111 Flight Time Tops 15,000 Hrs.

Tempo of F-111 flight-testing was accelerated last month as the variable-wing fighter passed another milestone — the 15,000th hour of flight.

Through Oct. 23, all F-111s had completed a total of 15,524 hours of flight on 7,438 reported sorties. This included about 295 hours of supersonic flight time.

Flight-testing activity was heavy at Fort Worth division.

F-111A No. 3 (terrain-following radar) and No. 5 (penetration-aids and gun-firing) completed testing recently and are now being used as chase planes in support of the test program.

Others in test at Fort Worth include: F-111A No. 13 (loads program); F-111A No. 14 (propulsion system testing with latest production inlets and engine changes); F-111A No. 18 (the FB-111A structural prototype now in ground-vibration in preparation for flutter tests with weapons); FB-111A No. 2 (propulsion tests with new engines).

Also at Fort Worth: F-111A No. 20 (special tests and inspection); F-111A No. 23 (speedbrake door tests); F-111A No. 24 (latest penetration-aids system tests); F-111A No. 71 (being readied for special penetration-aids tests); and F-111A No. 75 being prepared for high-speed flutter tests).

F-111A No. 25, the FB-111A avionics prototype, is testing Mark II avionics systems slated for the F-111D, plus electronic gear peculiar to the bomber version.

Also being readied for testing of the Mark II avionics equipment is F-111A No. 28. F-111A No. 29 will be used soon in separation tests of the SRAM (short-range attack missile).

FB-111A No. 2 production aircraft made the first in a series of tests at Fort Worth recently with new and more powerful engines.

Only two of the variable-wing aircraft are currently being tested at Eglin AFB, Fla.: F-111A No. 7 is being used in weapons-separation tests from the wing, while F-111A No. 26 is making drops from the weapons bay.

At Edwards AFB, Calif., Fort Worth division and Air Force personnel are conducting Category I and II testing.

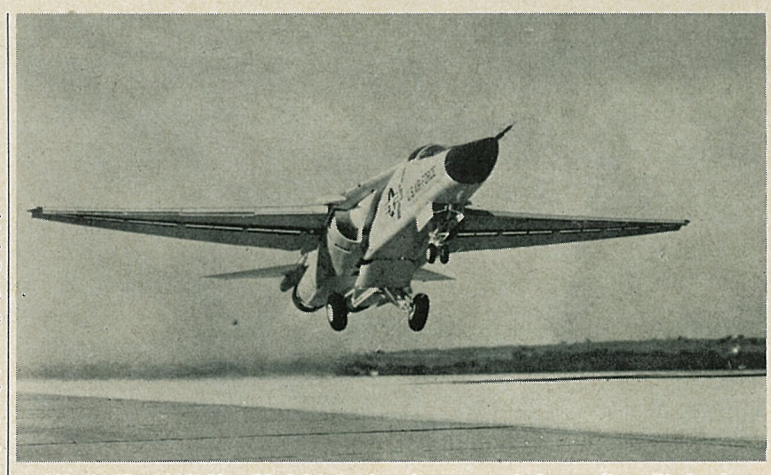
Air Force is using F-111As No. 8 and 10 for pilot training and systems testing.

Other aircraft in Category II testing include: F-111A No. 17 (stability and control); F-111A No. 22 (performance tests); F-111A No. 30 (weapons drops and systems tests); and FB-111A No. 1 (systems evaluation).

Category I testing is being carried out on F-111 No. 12 (air conditioning) and F-111A No. 21 (spin tests).

Australian pilots are making Category II performance tests on F-111C at the California site.

A number of F-111A aircraft—F-111As No. 80, 82, 84, and 85 through 106—are in various stages of preparation for delivery on the Fort Worth division flight line. A number of these aircraft have completed acceptance flights.



UP AND AWAY—FB-111A No. 2 roars aloft on first flight from Fort Worth division.

Training Reps Confer, Review New Programs

Representatives from various divisions attended a one-day seminar at Fort Worth division recently in which the division's management training and development programs were reviewed.

P. J. Murner represented Corporate Headquarters at the meeting. Divisions were represented by J. A. Croft, Convair; T. A. Rust, Pomona; P. B. MacDonald, Quincy; J. M. Wicken, Canadair; L. P. Crowley, Electric Boat; T. C. Cernosia, Stromberg-Carlson; H. E. Miller, Ardmore; W. H. Jayne, Freeman Coal; H. J. Greenspahn, Material Service.

R. H. Huggins, Fort Worth chief of educational services, was moderator, while H. D. Ramsey was coordinator.

Presentations were given mainly by educational services representatives in the following areas:

Upgrading Management Skills, Dr. H. H. Hays; Supervisor Selection, Joe Banta; New Supervisor Orientation, Larry Sanders; Basic Management Training, Gus Romer; First-Line and College Certificate Program, Wendell Towery.

Seminars, Bob Turpin; Management Communication, Richard Russell; Management Sensitivity Training, George Clark; Top Management Training, Larry Ragland; Educational Television, Doug Anderson; Training Equipment Utilization, G. B. Reed, Charles Nevitt, Ed Berta and Bob Johnson.

Three Accredited As QC Engineers

Two Stromberg-Carlson employes and one from Convair division have successfully completed requirements for accreditation as Professional Quality Control Engineers by the American Society of Quality Control.

Al Haas, manager of quality audit of Stromberg-Carlson - Rochester, Mel Redman of quality assurance at Stromberg-Carlson's Charlottesville plant, and William T. Hollar of Convair were among those who passed the examination for accreditation in this relatively new program of the society.

Electronics in Police Study

A federally sponsored study that may provide a model system for improving police communications in medium - sized American cities has been launched by Electronics division at Rochester.

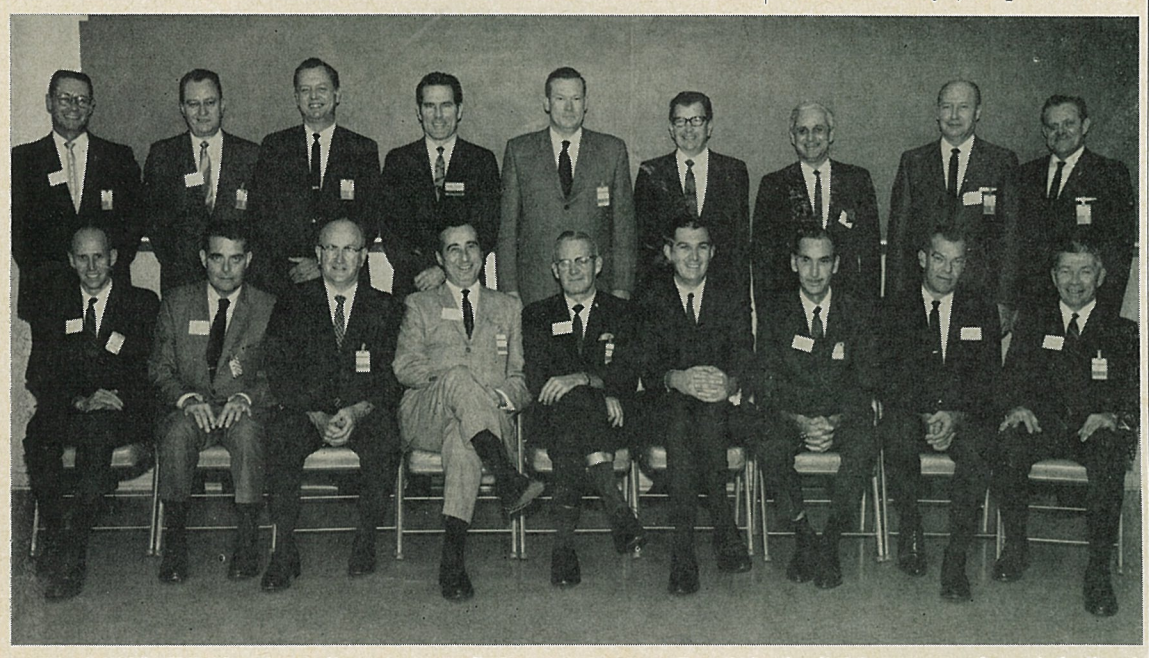
Rochester, with a metropolitan area of over 600,000 people, was selected as being typical of many cities of 100,000 to 750,000 population where police communications are overloaded with little or no reserve capacity for dealing with major emergencies.

The study, extending over nine months, is being carried out under a $49,650 contract with the city of Rochester. The Federal Department of Justice has made a $47,064 grant to the city from funds authorized by Congress in 1965 and administered by the Justice Department's Office of Law Enforcement Assistance.

Dr. Raymond A. Santirocco, a research scientist and systems analyst in the Electronics division, is directing the General Dynamics study team, which includes experts in tactical radio communications, electronics, behavioral psychology, linguistics, human factors and technical training.

During the first phase of study, through December, investigators will devise a tactical communications system best suited to the Rochester area. The second phase, to last about three months, will determine how the system can be adapted to other cities of comparable size. Two other cities, yet unannounced, will be surveyed by the General Dynamics team.

Dr. Santirocco said police radio and other technical equipment will be evaluated and the whole spectrum of communication sciences will be brought to bear on the problem, including studies of human motivation and behavioral patterns. For example, the speech habits of policemen and the clarity or confusion of their radio conversations will be analyzed. The possibility of using voice codes will be studied.



TRAINING TYPES—Attending recent all-day seminar at Fort Worth division were, from left, back row: Gus Romer, John Payne, Carl Ziehe, Larry Ragland, consultant; Dr. Henry Hays, consultant; Bill Nutt, Pete Murner, Corporate Headquarters; R. H. Huggins, Fort Worth; Harold Ramsey. Front row: Jack Croft, Convair; P. B. MacDonald, Quincy; Larry Crowley, Electric Boat; H. J. Greenspahn, Material Service; W. H. Jayne, Freeman Coal; T. C. Cernosia, Stromberg-Carlson; H. E. Miller, Ardmore; Ted Rust, Pomona; and Jim Wicken, Canadair.

People Mobility

Interdivisional Transfers

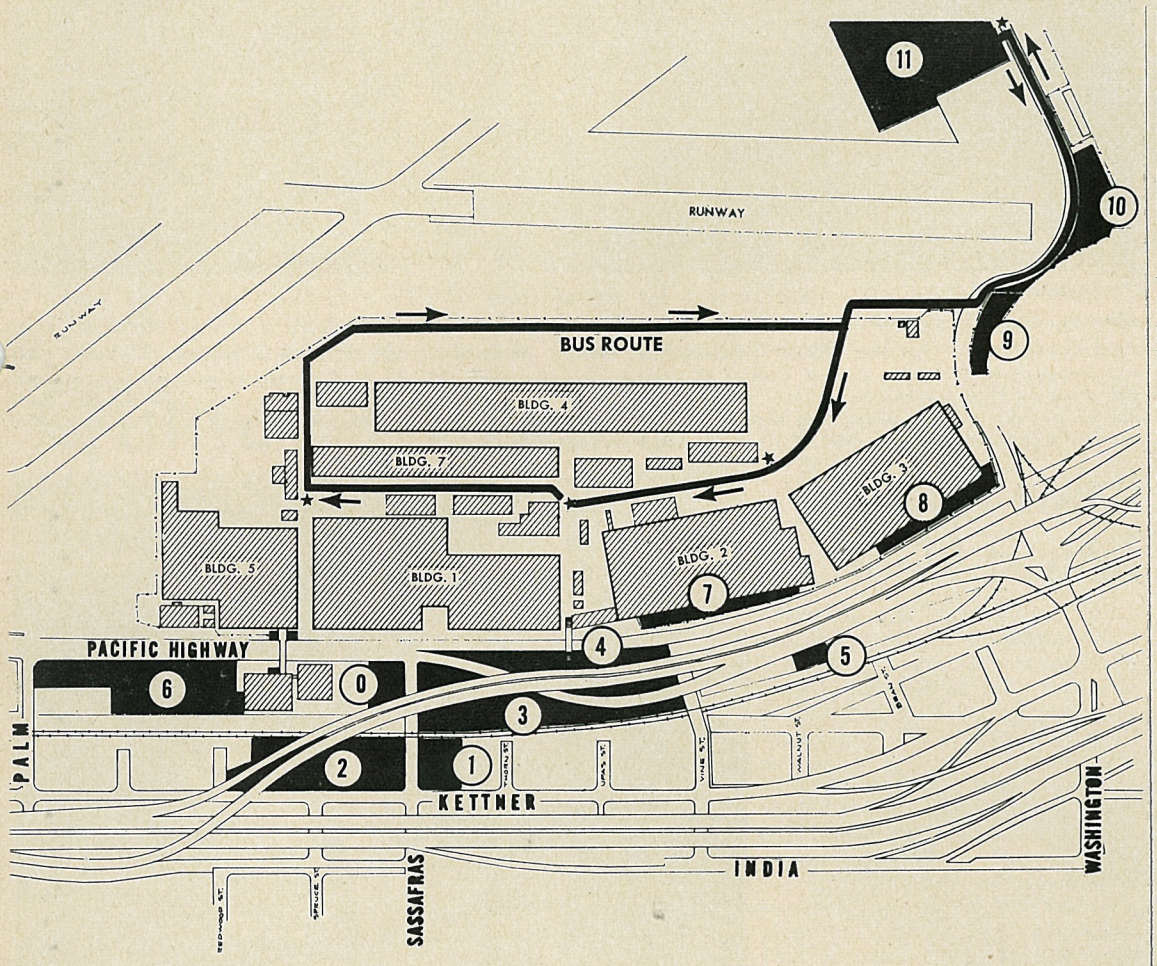
(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

DONALD E. KONO (1967) from Convair division to electronics engineer, Stromberg Datagraphics; **ROBERT E. TATRO** (1962) from Convair to Corporate Headquarters; **FRANK L. MAXFIELD** (1967) from Electronics, San Diego to Datagraphics as design engineer; **STEPHEN J. BARINKA** (1940) from Convair to Canadair Ltd.; **GEORGE C. FOWLER JR.** (1967) from Corporate Headquarters to Pomona as staff assistant; **ROBERT D. SMITH** (1961) from Convair to Datagraphics as design specialist; **GILBERT B. ROZRAN** (1967) from Convair to design specialist, Pomona; **JOHN E. WARD**, from Corporate Headquarters to Convair as staff assistant; **ARNOLD H. HOINES** (1955) from Convair to Quincy; **RICHARD G. HALL** (1947) from Fort Worth to production control supervisor, Pomona.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 24 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, November 20, 1968



PARKING REALIGNMENT—Map shows expanded out-of-plant parking facilities at Lindbergh Field plant, with new Compass Rose space designated as Lot 11. Stars along bus route indicate Compass Rose shuttle stops. See story for new parking lot asignments.

Parking Expansion, Realignment Slated For Monday at LF

Parking facilities serving Convair's Lindbergh Field plant will be expanded, and a number of present lots reassigned, effective next Monday, Nov. 25.

A major feature of the parking expansion involves leasing space at Compass Rose (Northwest of LF plant, Gate 5) and providing convenient shuttle bus service linking Compass Rose and the LF plant.

"The gradual shift of emphasis in Convair division's product lines has caused a continuing growth in population at Lindbergh Field plant and Air Force Plant 19," Jack L. Bowers, division general manager, commented in announcing the new parking arrangement.

"In September, 1967, our work force at these plants numbered only 5,800. Today this figure has grown to 7,500, with continued growth projected. This growth, coupled with the expanded freeway system, has caused a shortage of convenient out-of-plant parking at the LF plant."

At the same time, in-plant parking conditions have become critical, causing congestion and interference in movement of company equipment and materials.

To alleviate the out-of-plant situation, parking space at Compass Rose is being provided to accommodate 900 cars. In-plant parking is being restricted to those with a critical need for in-plant mobility.

So that Compass Rose parking will be easily accessible, a shuttle bus service will be provided daily from 6:30 a.m. to 8 and 3:30 p.m. to 5. During these periods, three 66-passenger buses will give shuttle service with three bus stops inside the LF plant to unload or load passengers (see map).

In the morning, security guards will check IDs as passengers board buses at Compass Rose so that there is no delay upon entering the plant proper. Schedules call for a bus to leave Compass Rose every four minutes. Passengers should allow for approximately 10 minutes bus travel time, with additional allowance for reaching their work stations.

Return shuttle service from the plant to Compass Rose will follow the same time schedules in the afternoon.

Between-Plant Bus Service Stepped Up

Coincident with establishment of the shuttle bus service to and from Compass Rose parking, regular day-long bus service between Lindbergh Field plant, AF Plant 19 and Kearny Mesa will be improved.

Effective Monday, Nov. 25, the new plan calls for addition of a second company bus for the between-plant runs.

One bus will serve the LF plant-AF Plant 19 bus stops every 20 minutes instead of every hour, starting at 7 a.m. and ending at 4 p.m. at AF plant 19. A second bus will serve the KM plant-AF Plant 19 bus stops every 40 minutes instead of once every hour, starting at 8 a.m. and ending at 4 p.m. at KM plant.

★ ★ ★

New Lot Assignments:

Following are lot assignments under the Lindbergh Field plant parking reorganization, effective Monday, Nov. 25:

Lots 1, 2, 5, 8, 10 and 11 will be "open lots" with space utilized on a first-come basis. (Lot 11 is Compass Rose).

Lot 4, accessible from Pacific Highway northbound, will be the new Rider-Driver lot. The same rules for admittance apply as in the past—two riders for large cars, one for small sports cars.

Space in Lot 4 also will be set aside for second shift personnel who start work at 3:30 p.m. and for employment applicants.

Lot 7 will be restricted to physically handicapped.

Lots 0, 3, 6 and 9 will be for decal holders only.

GD Pledges to Crusade Total $448,000 in Area

General Dynamics Corporation and Con-Trib-Clubs from its three major operating units in the San Diego area — Convair division, Stromberg Datagraphics, Inc., and Electronics-SD — have pledged $448,000 to the United Crusade for support of United Community Services and its 67 member agencies during the coming year.

The combined pledge — largest for major United Crusade donors — was announced at a Crusade report luncheon Nov. 6 at Vacation Village Hotel. It was revealed as a "family report" in which Stromberg Datagraphics, Electronics-SD and Convair representatives carried placards on stage to "spell out" the total amount one figure at a time.

Pledges making up the $448,000 total, a 20 per cent increase over last year's combined gift, included:

General Dynamics Corporation —$50,000, a 14 per cent increase over last year.

Convair division — $340,000, a 13 per cent increase over last year based on more than 90 per cent employe participation in the

(Continued on Page 4)



DYNAMICS' PLEDGE—Representatives of General Dynamics operating units announce $448,000 pledge from Corporation and Convair, Stromberg Datagraphics and Electronics-SD Con-Trib-Clubs at United Crusade report meeting. Holding placards, from left, are Bill Teague, Datagraphics; Howard French, Convair; Dean Strange, Convair; Jack Swank, Datagraphics; George Leesch, Electronics-SD, Paul Allgire, Convair.

Con-Trib-Club Participation At New High

More than 90 per cent of Convair division's employes — the highest percentage in division history — are now participating in the Convair Employes' Con-Trib-Club.

P. R. Allgire, supervisor of employe benefits and Con-Trib committee chairman, said percentage of "Fair Share" giving also was increased by more than 50 per cent and called the recent membership campaign "one of the most successful ever."

Overall membership in Con-Trib-Club was increased by 18 per cent during the two-week campaign. Jack L. Bowers, Convair general manager, was campaign chairman and D. D. Dimmitt, division fire chief, was overall campaign coordinator.

Departments concluding the campaign with more than 90 per cent employe membership included industrial relations, material, reliability, launch vehicle programs, Eastern Test Range operations, Vandenberg AFB operations, controller, contracts, legal and community relations.

(Continued on Page 4)

Pride in Con-Trib Response Expressed

Jack L. Bowers, Convair division general manager, has issued the following statement:

"I know every Convair employe who pledged his dollars to this year's United Crusade, shares my feeling of pride in the success of our campaign.

"Two things are most gratifying to me — first was the significant increase in 'Fair Share' giving and second was the fact that we attained our financial goal.

"The employes of this division continue to display a real awareness of social responsibility — to show the community that we care about others."

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

Q—Why don't we have a scholarship program for advanced business degrees?

A—It is now possible to obtain, after hours, an MS or MBA degree from either San Diego State or United States International University (California Western) under tuition refund. An MS in Business from USIU is being offered in-plant, after hours, with tuition paid in advance for fully qualified candidates.

★ ★ ★

Q—Would Convair consider entering the field of computer data processing services, specifically at ETR? By moving the present computer facilities into a company-leased facility off Cape Kennedy, expanded subcontracts could be available within the computer time and services market.

A—The sale of data processing services as such does not lie within the approved "product line" of this division. At ETR, the IBM 360 Model 20 has more capacity than is currently required

(Continued on Page 4)

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Nov. 15 and Nov. 30.

Thirty-year: Dept. 045, F. J. Hammack; 780, J. W. Cox.

Twenty-five-year: Dept. 001, W. G. Harrison, E. B. Tutterrow; 015, J. B. Hinojos, J. P. Lalanne; 059, M. L. Sweeney; 149, F. Adams; 250, W. H. Marshall; 578, R. E. Hamilton, S. Weiss; 758, R. B. Wilson.

Twenty-year: Dept. 016, Marjorie V. Archibeque, Beulah H. Nichols; 027, J. P. Hannibal, G. T. Loeffler; 149, F. M. Peterman, R. Steele; 400, J. H. Eldridge, 401, B. J. Jeffries; 510, J. H. Kersey Jr.; 515, J. A. Terramagra; 518, Dorothy S. Clark; 761, R. L. Brown Jr.; 820, Marion L. DeShon; 999, A. J. Baffone.

Fifteen-year: Dept. 019, W. F. Engelhardt; 027, J. P. Durazo; 059, D. M. Dvorak; 149, Madilee B. Fickas; 191; Edith M. Larson; 198, W. J. Lethbridge; 250, J. W. Fassel; 400, Elvira E. Esperti; 511, U. C. Sammons; 512, T. N. Munn Jr.; 519, A. J. Geisler; 545, E. E. Reading; 592, G. L. Drake Jr.; 780, Francisco Puchales; 979, M. Trbovich; 985, K. C. Christopherson.

Ten-year: Dept. 015, W. A. Carter; 059, J. Bennett, C. H. Taylor; 130, Alma L. Dyer; 144, Paulina Plus, 193, J. W. Skibo, P. Waier; 194, L. B. Kercher; 210, L. E. Minor; 250, J. Dallas, L. Price; 400, R. E. Beary; 511, R. L. Moore; 515, Constance A. Bates; 524, Agnes Kratz; 541, H. H. Laue; 583, D. L. Gross; 587, G. Harrison; 588, B. Dove; 731, W. D. Strunk; 759, E. Gabbard; 780, P. C. Pond; 830, J. L. Angevine; 831, Leona D. Nash; 979, W. R. Atwell, B. E. Monfort.

ELECTRONICS

Twenty-year: Dept. 422, M. E. Scholz; 513, L. C. Stone.

Fifteen-year: Dept. 423, E. H. Holsbo.

Awards

CONVAIR

Employe Suggestion awards approved for the week ending Nov. 8.

Dept. 113, C. E. Adair, $80.30; 962, C. W. Aulgur, $97.50; 979, R. F. Austin, $15; 840, V. J. Barber, $15; 840, J. D. Barbieux, $165.30; 045, J. J. Boyer, $15; 015, E. O. Brink, $59.40 (two awards); 780, M. B. Clapper, $15; 027, R. E. Cloud, $106.50; 020, C. Costantino, $25.50; 964, J. A. Eaton, $96.30; 420, D. P. Ellington, $22.80; 524, C. M. Gilliland, $15; 840, C. W. Glasgow, $15; 840, S. E. Gore, $87.60; 810, B. W. Gruber, $15; 566, C. C. Harness, $15.

Dept. 842, M. C. Hight, $20.30; 001, T. R. Iddings Jr., $7.50; 780, C. M. Johnson, $15; 015, J. D. Jones, $15; 031, C. J. Kapalla, $15; 143, W. D. Kennedy, $95.30; 144, W. G. Lux, $41.30; 001, E. C. Mackey, $121.90 (nine awards); 019, F. Malcangio, $18.40; 144, E. McLeod, $46.60; 850, L. D. Rickey, $15; 831, J. D. Rogers, $15; 840, M. L. Staples, $267.20; 401, J. L. Vidovich, $15; 401, L. F. Von Dran, $140.40; 027, E. E. Yturralde, $15; 027, M. J. Zaragoza, $99.30; 149, C. E. George, $15.

Employe Suggestion awards approved for the week ending Nov. 1.

Dept. 027, D. E. Allman, $98.90; 031, H. Anderson, $15; 149, D. S. Arnott, $15; 831, R. D. Behlman, $15; 979, R. O. Boles, $25; 985, S. W. Botta, $15; 027, P. W. Byrd, $15; 454, A. A. Carlson, $15; 250, E. Chenault, D. C. Daines, $12.15 each (joint award); 191, M. E. Chism, $50.60; 143, E. T. Clarkson, $18.70; 250, W. A. Engelke, $33.40; 015, J. Fattori, $20.05; 144, H. M. Gallant, $17.15; 191, Lilly Good, $34.90; 574, C. L. Hagen, $356.40; 144, P. W. Haggard, $197.

Dept. 001, T. R. Iddings, $30 (two awards); 015, L. J. King, $15; 015, A. D. Kozakiewicz, $20.05; 142, J. J. Lennon, S. A. Levinson, $7.50 each (joint award); 958, R. L. Logsdon, $158.80; 144, W. G. Lux, $111; 001, E. C. Mackey, $15; 146, M. R. Olson, $50; 002, G. D. Pfeifer, $42.10; 027, W. R. Piercy, $15; 979, W. B. Rauch, $15; 733, S. Serrano, $15; 027, M. W. Seton, $30; 144, R. L. Wagner, $35.70; 143, L. A. Weeks, $15; 027, W. L. Worthington, $15.

Papers Presented

CONVAIR

BRAZELL—R. R., Dept. 592. "The Need for Safety and Survival Programs in Pilot Training." SAFE/Sixth National Symposium, San Diego, Oct. 1-3.

ROL—P. K., Dept. 596. "The Production of NaO+ and NaN+ from Na and No+ in Merged Beams." 21st Annual Gaseous Electronics Conference, Boulder, Colo., Oct. 16-18.

Papers presented at the SAE/National Aeronautic and Space Engineering Meeting, Los Angeles, Oct. 7-11.

BALLINGER—J. C., G. B. WOOD, Dept. 592. "Low Gravity Capabilities of Life Support System Components and Processes."

BURNETT—J. R., Dept. 592. "Reliability and Maintainability Problems Confonting Environmental Control/Life Support Systems for Long Duration Space Flight."

CHRISTIAN—J. L., Dept. 572. "Development and Application of Metal Matrix Composite Materials."

NEWTON—K. E., ETR. "Atlas/Centaur Launch Vehicle Operation Experience."

STEPHENS—P. B., Dept. 584. "Cryogenic Altitude Control System."

Papers presented at the AIAA/19th International Astronautical Congress, New York, Oct. 13-19.

BRADY—J. F., Dept. 592. "Resolving Space Vehicle Stability Requirements for Perceptual Motor Tasks."

BREUER—F. D., Dept. 583, D. J. POWELL, Dept. 581. "Impact of the Thermionic Reactor on Advanced Space Vehicles."

FAGER—J. A., Dept. 581. "Large Space Erectable Communication Antenna."

Papers presented at the AIAA/5th Annual Meeting and Technical Display, Philadelphia, Pa., Oct. 21-25.

CHRISTIAN—J. L., Dept. 572, J. D. FOREST, Dept. 512. "Development and Application of Aluminum-Boron Composite Material."

NILSON—M. C., Dept. 581. "A Long Wave Radio Astronomy Interferometer for Orbit."

SCHADT—G. H., Dept. 584. "Aerodynamic Heating Problems and Their Influence on Earth Orbit Lifting Entry Spacecraft."

Papers presented at the American Welding Society/National Fall Meeting, Cincinnati, Ohio, Oct. 7-10.

HERSH—M. S., Dept. 572. "Resistance Welding of Metal Matrix Composite."

LANGFORD—G. J., Dept. 491. "Mn/Si Effects on Weldability of Inco 718."

RODEN—W. A., Dept. 491. "Evaluation of Resistance Welding In-Process Monitors."

Invention Disclosures

CONVAIR

CARMICHAEL—G. W., Dept. 596. Laser Tooling Device.

CASCO—E. L., R. I. DEVEREUX, Dept. 506. Air-Sea Interface Temperature Profile Measuring Array.

CASE—R. F., Dept. 967. Oceanographic Stable Laboratory Work Bench.

LAGUE—T. L., H. A. MITCHELL, Dept. 585. Depth Management Instrument.

MAURER—E. H. Jr., Dept. 551. Functional Automatically Sequenced Tester (F.A.S.T.).

MAYBERRY—D. W., Dept. 491. Monitor for Process Control of Thermo-Setting Resins.

MURPHY—J. J., Dept. 544. Passage Control or Security System Miniaturized into Label Form.

OGMAN—M., Dept. 962. Disposable Cooking Grease Trap.

SPURGEON—J. R., Dept. 511. Modified Fastener Head Configuration to Improve Corrosion Protection.

Retirements

CONVAIR

BECKER—Waldemar M., Dept. 059-5. Seniority date Nov. 14, 1941, retired Oct. 31.

BOOTS—William L., Dept. 146-6. Seniority date Jan. 25, 1956, retired Oct. 31.

BROWN—Lawrence, Dept. 250-2. Seniority date June 24, 1941, retired Oct. 31.

BURGESS — Clarence E., Dept. 401. Seniority date Jan. 3, 1968, retired Oct. 31.

GARTLAND—Florence O., Dept. 733. Seniority date July 12, 1956, retired Oct. 31.

LEWIS—Izora P., Dept. 780-5. Seniority date Aug. 17, 1950, retired Oct. 31.

LORD—Roger A., Dept. 401-5. Seniority date Sept. 18, 1967, retired Oct. 31.

McFARLANE — Archibald A., Dept. 508-0. Seniority date May 16, 1955, retired Oct. 25.

STRZELCZYK—John E., Dept. 756-0. Seniority date Oct. 7, 1954, retired Oct. 31.

SUBIDO—Rosendo C., Dept. 761-0. Seniority date May 7, 1956, retired Oct. 31.

WALLACE—Thomas W., Dept. 780-1. Seniority date Feb. 17, 1956, retired Oct. 31.

WILLIAMS — Ollie J., Dept. 832-3. Seniority date Oct. 2, 1957, retired Oct. 23.

Rider-Driver

CONVAIR

RIDE WANTED—From Brighton Ave., Ocean Beach, to Lindbergh Field plant, 7 a.m. to 3:30 p.m. shift. Phone Gary Eichler, 224-8563.

RIDE WANTED—From Ingraham St., Pacific Beach, to Lindbergh Field plant, 7 a.m. to 3:30 p.m. shift. Phone Roger Coomes, 272-1532.

RIDE WANTED — From San Carlos area to Lindbergh Field plant, 8 a.m. to 4:30 p.m. shift. Phone Patty Simmons, ext. 458 or (home) 465-3572.

RIDE WANTED—From La Mesa (near 73rd) to Lindbergh Field plant, 7 a.m. to 3:30 p.m. shift. Phone Shirley Cass, ext. 2250 LF.

RIDE OFFERED — From 30th and Cedar to Lindbergh Field plant, 7 a.m. to 3:30 p.m. shift. Phone Tom Hermann, ext. 2130 LF, or (home) 239-5369.

Personals

CONVAIR

I wish to express thanks to my many friends at Convair who contributed toward the retirement gift and party.

W. M. Belker, Dept. 059-0.

* * *

I wish to thank the many friends and fellow workers who have been so wonderful during my accident and stay in the hospital, where I will be a while yet.

Raymond S. Toy
Dept. 250-2

* * *

On my retirement date, Convair friends gave me a wonderful party that I will always remember— with a huge cake, hundreds of home-made cookies and a gift of money. Thank you so much!

Florence Gartland
Dept. 733-0

Deaths

GASKINS—Earnest A., Dept. 130-0, died Oct. 27; survivors include his wife, Dorothy, and a son, Richard.

Stock Plan Action Deadline Nov. 30

Salaried employes who are eligible must decide by Nov. 30 whether to withdraw "first-year" savings in the Savings and Stock Investment Plan or to defer distribution.

Two IBM cards — one for withdrawal, the other for deferring payment — were mailed to each salaried participant in the plan earlier this month.

Employes must return one of these cards to employe services by Nov. 30. If the appropriate card is not in the hands of employe services by the deadline, withdrawal cannot be made at this time without penalty.

Eligible employes who did not receive cards should contack employe services.

General Dynamics News

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Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.



SIGNING CEREMONY — Subcontract for manufacture of DC-10 fuselage panels by Aerfer of Naples, Italy, is signed in San Diego. Seated, from left, are Gen. Adolfo Varini, director of sales and contracts for Aerfer; Oscar Cinquegrani, Aerfer general manager; Jack L. Bowers, Convair general manager; H. E. Moose, Convair director of material. Standing, from left, are W. G. Evans, Convair manager of material contracts; Piero Manetti, Aerfer, U.S. west coast representative; E. V. Carosella, Convair subcontract administrator; Harry Hoelter, Convair technical buyer; Pete Nico, Convair DC-10 subcontract resident manager; H. Cushman Dow, Convair general counsel; Will Buxton, Convair chief of Lindbergh Field procurement.

Italian Firm Joins in DC-10

Convair division has awarded a subcontract to Aerfer Industrie Aerospaziali Meridionali in Naples, Italy, for fabrication of upper fuselage panels for the McDonnell Douglas DC-10 tri-jetliner.

Convair has responsibility for manufacture of all the 179-foot DC-10 fuselage structure except the nose and tail sections under McDonnell Douglas contract.

Aerfer will handle tool design, tool fabrication, manufacture and assembly of panels forming the upper portion of the fuselage.

A Convair resident office is being established at Aerfer with four division representatives now assigned on a permanent basis and others scheduled for assignment later as needed.

The panels to be built by Aerfer include the top section of the fuselage and right and left side panels including window and door cut-outs. Most of the panels will be transported from Naples to San Diego by ship.

First material for use in fabrication of the panels is scheduled for delivery from Convair to Aerfer the first of the year.

Delivery of the first set of upper fuselage panels from Aerfer to Convair is scheduled during the third quarter of 1969.



ITALY-BOUND—Four Convair men check globe before leaving for new assignments at Convair resident office at Aerfer in Naples. From left: Pete Nico, Frank Eramo, Herb Mishler, Ed Carosella.

Know the Territory

In a Way It's 'Homecoming' For Convair Team in Italy

A strong "native son" flavor marks the small Convair team setting up shop in Naples, Italy, to coordinate Aerfer's role with the division in manufacturing skin panels for the DC-10 fuselage project.

Aerfer will produce a portion of the panels for the aircraft under a subcontract recently awarded by Convair.

Heading the four-man Convair team is Italian-speaking Pete Nico of Dept. 820-1, a 12-year Convair employe who will be resident office manager at the Aerfer plant. Nico not only speaks Italian, but he has relatives in the Naples area.

Other members of the team are Edward V. Carosella of Dept. 820-0, who will be responsible for subcontract administration; Herbert H. Mishler of Dept. 140-2, reliability control, and Frank Eramo of Dept. 400-2, tool engineering.

Carosella, who retired last year after 25 years as a civilian contracting officer for the Air Force, is a native of Italy. His mother lives in Rome and he has three sisters in Italy, including two in Naples. In addition to his contractual duties, he will serve as the group's "official interpreter."

Eramo, a Convair employe 27 years, has numerous relatives in Italy, including 10 first cousins in Naples. A native of Ohio, he last was in Italy on a vacation trip in 1960.

Mishler has 27 years experience with aircraft and missiles and was chief engineer of Middle East Airlines in Beirut, Lebanon, from 1946 to 1948 (**GD NEWS, March 23, 1966**). He served in the Air Force during World War II and was last in Naples when he disembarked there from a troopship.

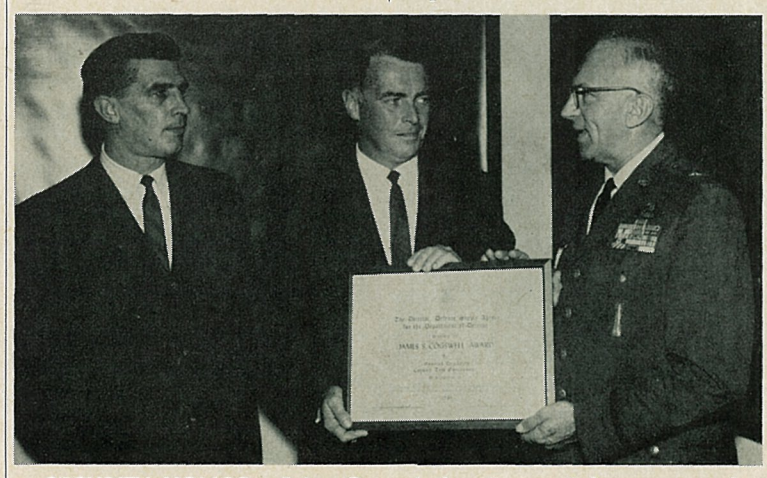
Convair Vandenberg Earns Industrial Security Award

A 1968 James S. Cogswell "certificate of excellence" industrial security award was presented to Convair Vandenberg AFB operations by Brig. Gen. Arthur Exon, commander, Defense Contract Administration Services Region-Los Angeles, in ceremonies Nov. 1 at Vandenberg.

The award recognized Convair Vandenberg operations personnel for "superior performance" in carrying out security obligations in performance of work on classified defense contracts.

General Exon previously had presented a similar award to Convair division in ceremonies at the Kearny Mesa plant (**GD/NEWS, Nov. 6**).

Present for the Vandenberg presentation included Col. O. R. Haney, commander, 6595th Aerospace Test Wing; Col. B. G. Parks, commander, Det. 1, Hq. Air Force Contract Management Region; Col. Earle Sweetland, commander, 4392nd Aerospace Support Group; Lt. Col. Joseph Herron, chief, 4392nd Security Police Squadron; C. L. Graybill, SPS administrative security branch chief, and John Baney, SPS chief of industrial security inspection.

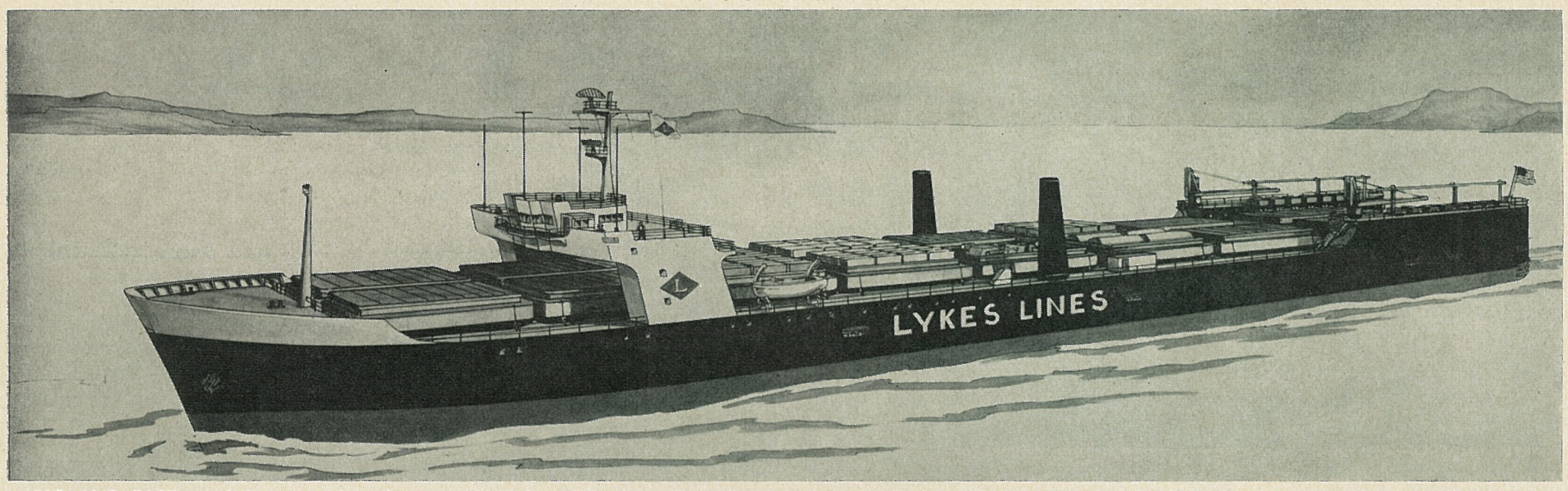


SECURITY HONOR—Brig. Gen. Arthur Exon, right, commander, Defense Contract Administration Services Region-Los Angeles, presents Cogswell industrial security award to Roger Lynch, Convair operations manager at Vandenberg AFB, as Ray Forrest, left, Convair security officer, looks on.

$1.25 Holiday Meal Scheduled Nov. 26

Turkey with all the "trimmings" will be served next Tuesday (Nov. 26) at Convair cafeterias. Cost will be $1.25.

Included will be turkey, homestyle dressing, mashed potatoes with giblet gravy, cranberry sauce, tossed green salad, creamed peas and celery, hot rolls and butter, pumpkin pie and coffee or tea.



BIG AND FAST—Artist's conception shows profile of new Seabee Class ships to be built by Quincy division for Lykes Bros. Steamship Co. Vessels will be largest common-carrier cargo transports ever built for American Merchant Marine. They are due to enter service in 1971.

Quincy to Build Huge Transports

Lykes Bros. Steamship Co. Inc., of New Orleans, La., has contracted for the construction of three of the world's largest cargo transports of a revolutionary design to be built at Quincy division at a cost of $32,617,333 each. They are scheduled to enter service in 1971.

Of the total contract cost, based on Quincy division's low fixed price bid for the ships, including national defense features, a construction-differential subsidy of 55 per cent will be paid by the U. S. Government, based on Japan as the representative foreign shipbuilding center.

Each ship will be 875 feet long and 106 feet wide. Their length is equivalent to the approximate length of three city blocks. This makes them the largest common carrier freight ships ever built anywhere in the world. They will have power plants of 36,000 shaft horsepower, again the largest ever installed in any cargo vessel anywhere. The ships will be capable of speeds of 20 knots or better.

Not only are these ships big and powerful, but they represent a new concept in ocean cargo transportation, providing a superior system of cargo handling unlike anything ever attempted in the history of world shipping. Not only are they designed to rebuild America's maritime capability but they promise to provide U.S. Naval forces with vital auxiliary power unmatched by any previous merchant ships.

The new Lykes ships have the capacity to carry 38 barges containing 17,500 tons of cargo. The available cargo space may be used instead to transport more than 1,600 containers of standard size, equivalent to 1,500,000 cubic feet of cargo, or the ships can handle roll - on, roll - off vehicles and unitized loads with equal facility. And in addition, each ship could carry 15,000 tons of liquid cargo in its deep tanks. And to top it all off the ship has a heavy lift capacity of 2,000 tons, far greater than any other ship or crane in the world.

It can be easily seen that the Lykes design can do the same things as any other specialized vessel, yet without any physical changes has the flexibility to specialize in any direction or to provide a mixture of roll-on, roll-off, palletized cargo, break-bulk cargo and containers.

Until recent years, cargo has been carried in ships in the same basic manner for hundreds of years. More recently, however, special ships have been designed to offer a solution to a particular problem, but none of them has the flexibility of the new Lykes design.

Some of the new specialized vessels require extensive shoreside facilities. Not so the Lykes barge carrier. Its barges may be loaded on any inland body of water, be delivered to the Lykes carrier and loaded aboard to be discharged overseas and delivered to ultimate destination without the Lykes barge carrier itself ever entering congested port areas or tying up to a dock.

Lykes will build 266 barges to service the three mammoth new ships. Each of the barges will measure 97½ feet long and 35 feet wide. The cost of these barges is not included in the construction costs of the carrier vessels. The barges are loaded and discharged by a 2,000-ton submersible elevator at the stern of the ship. Two barges can be handled simultaneously. The barges are moved from the elevator to their storage location by power-operated transporters. Each of the carrier vessels can be loaded or discharged in 13 hours, or better than 15 times faster than present-day break-bulk cargo carriers.

A major advantage of carrying cargo in barges is the potential reduction in cargo handling. If a barge can be loaded at a manufacturer's plant inland, towed to the barge loading facility and loaded on the vessel with delivery to the consigne's facility overseas, the number of handlings of the cargo is reduced to two as compared with the five or six handlings that cargo must undergo now. This also reduces the opportunity for pilferage.

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Lykes Ships Design Adaptable For Military Amphib. Duty

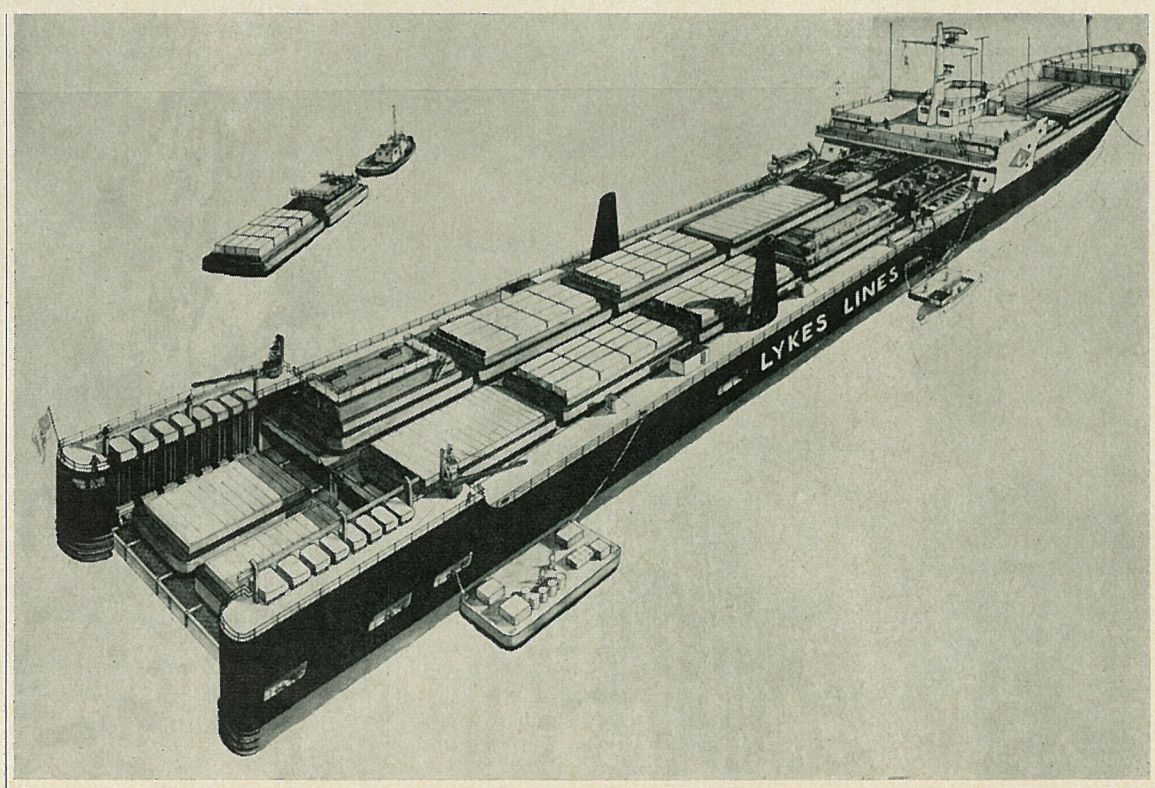
A feature of the giant new Lykes Bros. ships is their potential adaptability as a military tool.

Although designed primarily for commercial operations, the ships offer wide possibilities for instant military applications. The ships can handle military craft of almost any description, including tanks, weapon and personnel carriers, etc.

Not only will the sea giants be able to transport landing craft and other light naval vessels, but they also will be able to carry the fuel for them in their deep tanks. These tanks are capable of holding as much as 15,000 tons of liquid cargo, in addition to an estimated 1,500,000 cubic feet of cargo on the three cargo decks.

The ship's unique roll-on, roll-off operation would be suited for amphibious operations, discharging tanks and troops at a much faster pace than anything realized during World War II's island-hopping operations.

With such fueling and cargo capacity, ships also could act as supply agents for fleet oilers, repair ships, tenders, aircraft carriers and other fleet units.



UNLOADING—New barge and inter-modal carrier is shown at destination, discharging loaded barges. Two are already in tow and on their way inland. Note 2,000-ton elevator at stern about to discharge two more fully-loaded barges.

Tired of 'Cons'

Pilot Expresses Confidence in F-111

"I am sick and tired of all the pros and cons (mostly cons) about the F-111A fighter-bomber," Capt. Fred H. de Jong, USAF, wrote in a "Letter to the Editor" published in Aviation Week & Space Technology, Nov. 11, 1968.

"The absurdities printed and reported about this aircraft . . . are beyond comprehension . . .

"People directly involved in testing and eliminating the bugs in the F-111A spend more time fending off criticism and correcting erroneous statements than they can afford . . .

"The mission: long-range interdiction. It is the only aircraft in the world that can hack the long-range interdiction mission, 24 hours a day, in any weather and with conventional weapons accuracy.

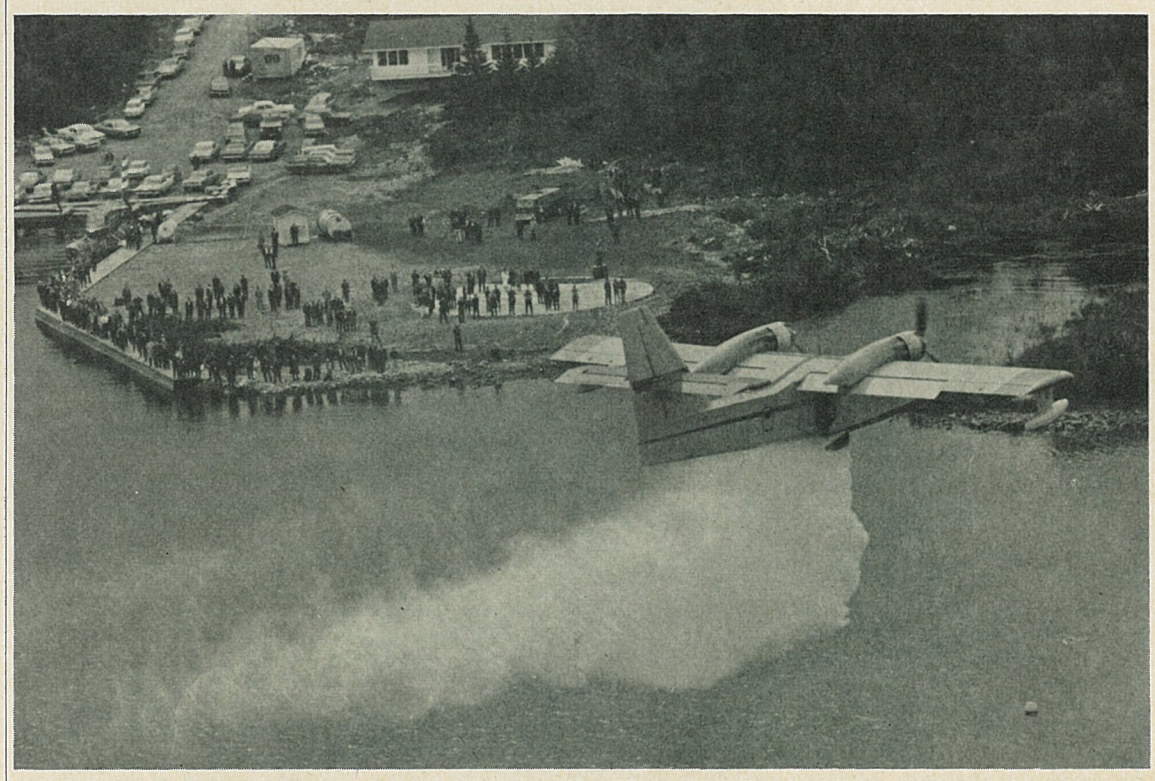
"Its nuclear capability: Fantastic . . .

"The bugs: Not at all insurmountable by any stretch of the imagination. I recall the F-105 blowing up out from under us, circa 1964. It required an industry-wide, blue ribbon team to come up with a major modification. What is our best operational fighter-bomber today? The F-105.

"Improvements: I have never flown an aircraft that didn't need improving. With a war on, the F-111A is being continuously updated through knowledge obtained by operation experience . . .

"Can the F-111A hack its primary mission? Yes, definitely, without a shadow of a doubt."

Capt. de Jong lists his qualifications: a tactical fighter pilot, having flown 121 combat missions in the F-105. He has been combat qualified also in the F-100, F-102, and F-104. He is an instructor pilot in the F-111A with 385 hours and is a graduate of the USAF Tactical Fighter Weapons School.



READY MADE RAIN—Canadair's spectacular CL-215 "water bomber" forest fire fighter demonstrates at St. John's, Newfoundland for Canadian Institute of Forestry convention. Deliveries to Province of Quebec and to French government are planned prior to forest fire season next year.



ARMY VISITORS—Observing as Joe Galian Jr., Dept. 541-0 senior electronics engineer, uses Range Measurement System-2 station test set during vibration test of RMS-2 back-pack unit, from left, are C. E. Wilson, Convair RMS-2 program manager; Col. A. F. Mitchell, instrumentation support group commander, Army Combat Developments Command Experimentation Command; Lt. Col. Max Hoyer, CDCEC engineering division chief.

Army Experimentation Officers Briefed on RMS-2 Program

Two officials of the U.S. Army Combat Developments Command Experimentation Command (CDCEC) visited Convair's Kearny Mesa plant Nov. 7 for a Range Measurement System-2 program review and to observe running of final production verification and burn-in tests on selected RMS-2 units.

They were Col. R. F. Mitchell, instrumentation support group commander, and Lt. Col. Max Hoyer, engineering division chief.

Convair is producing 25 transponder units, 23 interrogation stations, two distribution stations, two control stations and three test sets for the range measurement system for future use by CDCEC at the Hunter Liggett Military Reservation in Northern California.

C. E. Wilson, Convair RMS-2 program manager, said checkout and verification tests are being conducted at Kearny Mesa. The electronic assemblies for transponder units and interrogation stations are being subjected to temperature, vibration, shock and 40-hour continuous-operation tests prior to their delivery to CDCEC next month.

Convair personnel will run RMS-2 systems acceptance tests from December through February at Hunter Liggett.

CDCEC will use the system in field experiments in which effectiveness of combat tactics and present and proposed combat equipment will be evaluated.

Soldiers participating in the experiments will wear the RMS-2 battery-powered back-pack transponder units, helmets equipped with a small antenna and a bone-conducting message alarm unit, and small digital-signal message units attached to their belts.

Field positions of each individual can be determined within 1/600-second through use of a central control computer from distance measurements transmitted through interrogation stations at known locations.

Convair personnel conducting the briefings for Cols. Mitchell and Hoyer, in addition to Wilson, included W. T. Dorrance, director of special programs; Orison Wade, chief design engineer-electronics, and Eric Herz and Eric Woods of the electronics engineering department.

The visiting CDCEC officials also saw a Convair-developed field effects montitor demonstrated by Lloyd Board and M. B. Folkert, were briefed on the division's ballistics test facility by M. D. Campbell and discussed data processing technology with T. M. Wooster.

Douglas Mgt. Club To Tour KM Plant

More than 200 Douglas Aircraft Management Club members will be guests of Convair division for dinner and a tour of the Kearny Mesa plant Nov. 26 and 27.

Jack Hurt, Convair DC-10 program manager, will welcome the groups. Charles W. Lacy of Dept. 756-0 will lead a tour through Convair computer, optics, vibration and life sciences laboratories, Atlas-Centaur final assembly and checkout areas, and Orbital Vehicle One satellite and electronics production facilities.

Robert Franklin, Convair Management Club host tours manager, handled arrangements for the visit. Dinners for the visiting groups will be served at 6 p.m. in the Kearny Mesa plant cafeteria.

Inventory Society Elects Art Ratz

Art Ratz, supervisor of material control Dept. 840-0 for Convair, has been elected vice president of Region 7 of the American Production and Inventory Control Society (APICS). The region encompasses the southwest area of the United States and Hawaii.

Ratz was charter president of San Diego APICS Chapter No. 100 in 1966, was elected national delegate the following year and received the chapter's "Man of the Year" award in June.

Convair Son Earns High Scout Honors

Ernie Luke Jr., 17, son of E. H. Luke of Convair's Centaur guidance Dept. 967-4, achieved Eagle rank — the highest in scouting — at an awards dinner Nov. 7 at Boy Scout headquarters in Balboa Park.

A senior at Clairemont High, he has worked his way through all Cub Scout and Boy Scout ranks.

The senior Luke also is active in Scouting, currently serving as adviser to Explorer Post 210.

Floating Toys For KM Reflection Pool Again to Create Christmas Wonderland

The reflection pool at Convair's Kearny Mesa plant will be turned into a floating wonderland of toys again during the coming Christmas season.

M. J. "Chili" Chilcote, plant security guard who will head up the collection project, said employes are invited to deposit floating toys in the pool beginning Dec. 1.

The toys will be removed about Dec. 23 and given to the Salvation Army for "Santa" to distribute to needy children.

More than 200 toys were donated in a similar collection project last year. The reflection pool is under the circular ramp at the Bldg. 2 entrance to the Kearny Mesa plant.

Con-Trib-Club Participation At New High

(Continued from Page 1)

Operations departments, with 6,933 employes, and research and engineering departments, with 2,553 employes, achieved 89 per cent and 88 per cent participation, respectively. "Fair Share" participation in these departments also was increased 60 per cent and 49 per cent, respectively.

The Con-Trib-Club committee in its Oct. 31 meeting pledged $340,000 to United Community Services of San Diego County, payable in 12 monthly installments.

This was $40,000 more than last year's gift and was based on added giving pledged by employes in the membership campaign. Convair employes, through the Con-Trib-Club, traditionally have been the single largest contributor to UCS.

The Con-Trib-Club committee, on recommendation of the Vandenberg AFB employes' advisory committee, also granted $2,250 to United Fund of Santa Maria, $1,500 to United Fund of Lompoc, $500 to the Salvation Army for its Christmas appeal and $350 for "Operation Big Brother."

At the request of Los Angeles employes, $515 was granted to the United Crusade of Los Angeles County and $375 to Children's Hospital of Orange County.

GD Pledges Total $448,000 For Area

(Continued from Page 1)

Con-Trib-Club.

Stromberg Datagraphics—$40,000, an increase of 333 per cent over last year, based on more than 85 per cent Con-Trib-Club membership. Average contribution per giver is $40.49, a 150 per cent increase over last year.

Electronics-SD — $18,000, also an increase over last year's total. This was based on 75 per cent Con-Trib-Club membership, a 10 per cent increase over last year.

Representing the General Dynamics operating units and Con-Trib-Clubs at the report luncheon were:

Electronics-SD, Gordon Prentice, manager of operations; George Leesch, manager of industrial relations.

Stromberg Datagraphics, Carl Shannon, president; Bill Teague, director of industrial relations; Jack Swank, manager of employe relations.

Convair, Jack Bowers, general manager; L. I. Medlock, director of reliability control; Ray Blair, assistant to the general manager; Roger Brown, manager of compensation; Paul Allgire, supervisor of employe benefits, Howard French and Dean Strange, Con-Trib committee members.

Seminar Scheduled On 'Human Assets'

A six-hour film and discussion seminar on "Management and Human Assets" has been scheduled by educational services for selected personnel at Lindbergh Field beginning Dec. 3.

Sessions will be held from 1 to 3 p.m. Dec. 3, 4 and 5 in Bldg. 5, Rm. 338. Phone David Chigos, ext. 1931 KM, for additional information or enrollment.

Electronics Club Will Hear Marine

Capt. Robert B. Johnston, USMC, will address the Electronics, San Diego Management Club tomorrow, Nov. 21 at the Officers Club Garden Room, Marine Corps Recruit Depot.

Capt. Johnston, a native of Edinburgh, Scotland, will present a briefing on the Viet Nam conflict. In addition, a film will be shown on the use of Marine Corps electronics under battlefield conditions.

Tickets, priced at $4 include open bar, 5:30-6:30 p.m. and dinner.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Continued from Page 1)

for Convair launch services and the excess time is sold in order to maintain full utilization.

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Q—Most people seem to think the "mixed portfolio" of the Savings and Stock Investment Plan operates as a mutual fund, but I don't agree. I feel the Trustee only buys and sells stock when it obtains authorization from General Dynamics, while a mutual fund buys and sells continuously in accordance with its judgment of the market. What I'm really asking is how does our diversified portfolio differ from a mutual fund?

A—The "diversified portfolio" does operate in a manner similar to a mutual fund. The Trustee buys and sells stock without consulting General Dynamics. Also, the administrative expense is absorbed by General Dynamics and is not taken out of portfolio earnings. An employe's account is set up in units rather than in shares.

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Q—Why am I forced to decide so far (three years) in advance of retirement as to inclusion of my wife in retirement benefits? This seems an excessive period. Does General Dynamics contemplate reducing this to six months, or a year?

A—This was a requirement of the plan as originally designed. Management is currently reviewing requirements of the Retirement Plan and is considering a reduction in this period.

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Q—With ample parking space at Kearny Mesa plant, why can't we have a designated area for campers? It is a safety hazard trying to back out of a space if a camper is parked next to you, and the overhang makes it difficult to leave your car.

A—It would be necessary to specially mark parking areas near the many plant entrances and it is believed that this effort, plus that of monitoring, would not justify the added convenience.

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Q—Supervisory merit increases normally become effective in September, with notification about the same time. As the Savings and Stock Investment Plan is "open" during August for increases in investment, and as many prefer to invest part of a merit increase in the Plan, would it be possible to advance the notification date?

A—In the past, supervisory merit increases normally were granted in September. However, under the now current policy of rewarding outstanding performance or increased responsibility in a timely manner, increases are made at any time during the year. Management is notified as soon as necessary approvals are obtained in order that the individual may be notified in advance.



REPEATERS—Material department scored for second straight time in winning third quarter C-5 empennage cost avoidance honors and "Big Nickel" awards. Department members, from left, M. F. Gonzales, Marty Formanek, J. E. Hoy, M. D. Hammersley, H. N. Brown, Craig Lent and Mac Swinney. An eighth member, Barney Hall, was absent when picture was taken.

Cost Avoidance Honors on C-5 Earned by Material Dept. at LF

Third quarter C-5 empennage cost avoidance honors went to material department at Lindbergh Field plant for the second straight time, earning commendations and "Big Nickel" awards to eight material department employes. They contributed $56,512 of the C-5 project's $152,379 cost avoidance total.

Receiving commendations and "Big Nickel" awards from R. W. Miller, C-5 program manager, were M. F. Gonzales, Marty Formanek, J. E. Hoy, M. D. Hammersley, H. N. Brown, Craig Lent, Barney Hall and Mac Swinney.

"Big Nickel" program, a Lockheed award innovation, was instituted by Convair at the start of the year to recognize cost avoidance suggestions and projects originated by employes working on the C-5 project. Convair manufactures the empennage sets for Lockheed's C-5 Galaxy transport, the world's largest airplane.

Miller said he was extremely pleased with results of the "Big Nickel" award program and hoped it would continue to play a significant role in successful C-5 empennage production.

Vaccine Flown To Baja Calif.

Eight Convair division employes who are members of Flying Samaritans, Inc., assisted Baja California public health representatives Nov. 9 and 10 in a house-to-house campaign to immunize children under five years old against polio in 21 communities south of Ensenada.

They were Don Pardee, Wally Den Herder, Jim Boggus, Claude Bissell, Tom Berry, Phil Torano, Bob Doolittle and C. E. "Red" Birdsell.

At the request of Dr. Samuel Maceda, public health official in Ensenada, the Flying Samaritans picked up polio vaccine and Mexican nurses in Ensenada, then flew or drove to villages where the vaccine was to be given.

Townspeople provided cars for the house-to-house campaign, in which more than 3,000 doses of vaccine were administered. A population census also was conducted.

More than 50 members of the Flying Samaritans — with nine aircraft — and 19 Mexican nurses participated. Return trips at two-month intervals are scheduled to complete the program, designed to eradicate polio in the state.

The Flying Samaritans have been providing medical assistance for Baja California communities for six years.

Classes Stress Material Care

Classes emphasizing proper materials handling and packaging practices for both new hires and on-board personnel are being conducted throughout Convair.

Dale Marks, chief of industrial engineering projects, said the material handling classes are an expansion of the existing programs and designed to promote an even greater awareness of economical handling and packaging practices.

With material and manufacturing costs on the increase, it becomes even more important to keep handling damages to a minimum. Marks said protective packaging must be held to the basic needs, since "overpackaging" adds unnecessary costs to the product.

Will Weidenfeller of educational services is instructor; D. E. McMurtrey, materials handling and packaging engineer, coordinator, and W. J. Dawsey of industrial engineer, on loan for a year to National Alliance of Businessmen, narrator.

Classes are being held at Kearny Mesa in Room 8 of Bldg. 17 and in the auditorium of Bldg. 14 at Lindbergh Field. Supervisors with material handling personnel who have not been solicited for these special training classes can contact Weidenfeller for additional information at educational services (ext. 1931 at Kearny Mesa).

Rockhounds to Visit Ariz. on Field Trip

CRA Rockhounds will visit Bagdad, Ariz. during their November field trip and rock hunting expedition.

CRA signs will designate prime collecting areas during the Nov. 28-Dec. 1 jaunt. Campsites and wood are available but those making the trip should bring their own water.

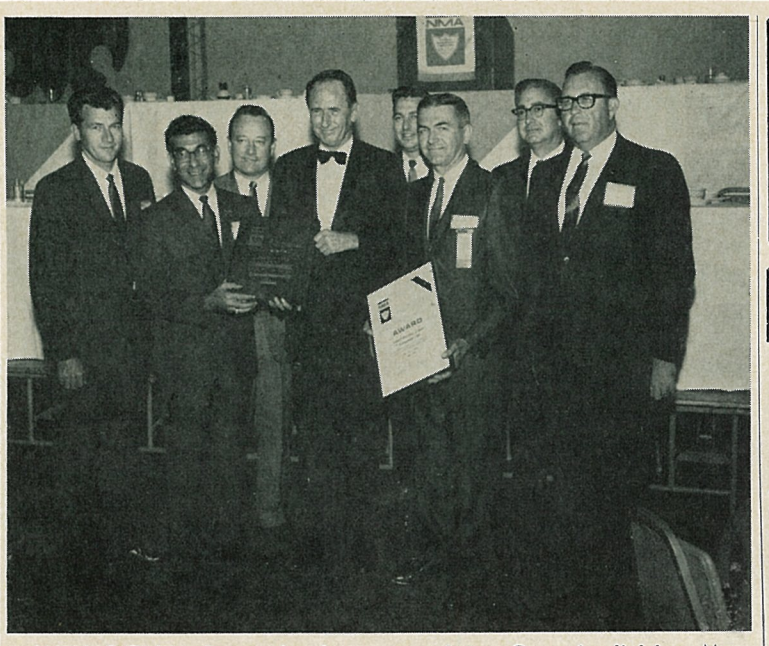
For information call Verb Echols at 445-3386.

Long Thanksgiving Weekend in Offing

Most Convair division employes will have Thursday and Friday of next week (Nov. 28 and 29) as Thanksgiving holidays and Dec. 23, 24 and 25 as Christmas holidays.

Guard, fire protection and other employes required to work will be notified by supervision.

Plant holidays in 1969 will be Jan. 1, May 30, July 4, Sept. 1, Nov. 27-28 and Dec. 25-26.



WELL DONE—Roger Lewis congratulates Convair division Management Club contingent for getting "Excellent" rating among NMA clubs. From left, Jess Cook, first vice president; Ad Mosco, immediate past president; Jim Wills, financial secretary; Lewis; Chuck Simmons, recording secretary; Bill Chana, president; Gene Divine, treasurer; Herb Day, second vice president.

Both Convair and Vandenberg Clubs Earn 1968 NMA Awards

Convair Management Club received three National Management Association awards and Convair Vandenberg Management Association received two at the NMA annual convention last month in Fort Worth, Texas.

The Convair club received a third place award for "best management club in the nation," a third-place for "best performance" for clubs with more than 500 members and an "excellent club" award.

Convair Vandenberg received a second-place "outstanding club" award for clubs of its size (79 to 119 members) in the nation and an "excellent club" award.

The awards were for overall club performance toward NMA objectives and were based on activities such as management development courses, meetings, officer training and publications.

Representing Convair Management Club at the convention were Bill Chana, president; Jess Cook, first vice-president; Herb Day, second vice-president; Chuck Simmons, recording secretary; Jim Wills, financial secretary; Gene Divine, treasurer; Ad Mosco, past president, and Wes Magnuson, NMA director.

Convair Vandenberg Management Association was represented by D. T. Barber, president. Officers for the 1967-68 year, for which the awards were presented, were H. A. Ortiz, president; Barber, executive vice-president; A. F. Sanger, administrative vice-president; R. N. Schmidt, recording secretary; H. R. Holeman, financial secretary, and D. W. Grundstrom, treasurer.

Fort Worth division's Management Club won the NMA first place award for club publications.

Three Are Winners In Women's Golf

A "turkey shoot" highlighted General Dymanics Women's Golf Club action Nov. 9 at Singing Hills Pine Glen Course.

May Dean Schell was trophy winner, Nell Bartlett took the merchandise order award and the big winner who went home with the turkey was Eileen Wilson.

No tournament is scheduled next month but members will hold their annual Christmas party, Dec. 4 at the Hanalei Hotel. Call Doris Parker at LF ext. 583 for information.



REDUCING DEFECTS—Electronics-SD third quarter Zero Defects group award banner went to fabrication and machine shop Dept. 422. Participating, from left, R. H. Nicholson, manager of quality control; General Manager D. C. Prim; Jack Murray, general foreman; Bill Doroshuk, foreman, (behind Murray, wearing glasses), and W. J. Hemmer, manager of manufacturing.

Electronics-SD's Fabrication, Machine Shop Win ZD Banner

Fabrication and machine shop's Dept. 422 took Electronics-SD's third quarter Zero Defects group award banner. It was the third such win for the department since the award's introduction.

R. H. Nicholson, manager of quality control, said the award was based on the group's outstanding performance in reducing its defects over the previous quarter by 56 per cent.

The department's current defect rate is 9.6 per 100 man-hours worked.

General Manager Don C. Prim congratulated employes in the group for their performance in a brief ceremony. Candy and cigars were distributed to employes.

Sports & Recreation

CRA Calendar

(For information on CRA activities call CRA headquarters ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is Nov. 25. Call ext. 1071 LF or 3322 KM. All meetings are held in CRA Clubhouse unless otherwise noted.)

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ADVENTURERS — Meeting tonight, 7:30 p.m., slide program. Four day trip to Pinacate region in Sonora, Mexico beginning Nov. 28.

BADMINTON — Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BASKETBALL — Coaches meeting tomorrow, Nov. 21, 7 p.m. Rosters due at meeting.

BICYCLE CLUB—Mission Valley and Mission Bay ride, Nov. 23. Meet 9 a.m. De Falcos in Mission Valley.

BRIDGE — Duplicate bridge sessions each Friday, 7:30 p.m.

CERAMICS — Meet each Tuesday and Thursday, 7-10 p.m.

CHESS — Play each Wednesday, 7 p.m.

COINEERS — Meeting tonight, 8 p.m., Convair Lindbergh Field cafeteria.

FENCING — Workouts and instruction Friday, 7:30-10:30 p.m.; YWCA, 10th and C Sts.

GARDEN CLUB — Annual Christmas Party, Dec. 4, Floral Bldg., Balboa Park. Gift exchange; door prizes.

GOLF — "Turkey Shoot," Rancho Bernardo, Nov. 23-24.

HEALTH CLUB — Open 9:30 a.m. to 10 p.m., Monday through Friday; 10 a.m. to 5 p.m., Saturdays. Call ext. 1111 KM.

HI/FI MUSIC — Meet at Fox Theatre, Nov. 24, 9:30 a.m. See and hear Robert Morton pipe organ.

ICE SKATING — GD family skate nights Thursdays, 6:15-7:45 p.m.; Mission Valley Ice Arena.

JUNIOR SCIENCE — Meeting and workshop third Friday each month, 7:30 p.m.

MINIATURE RAILROAD — Operating sessions Saturdays, Sundays and holidays, CRA Missile Park.

MODEL HO RAILROAD—Work sessions each Tuesday, 7 p.m., CRA Missile Park.

PISTOL CLUB — Next shoot, Nov. 24, 9:15 a.m., S. D. Police Pistol Range.

SAILING CLUB — Meeting Wednesday, Nov. 27, 7:30 p.m.

SCULPTURE—Workshop sessions each Monday, 7-10 p.m.

SQUARE DANCE CLUB—Harvest Day dance, tomorrow, Nov. 21, 8 p.m.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m.

WOMEN'S GOLF—Annual Yule party, Dec. 4, Hanalei Hotel.

Square Dance Party Features 'Harvest'

"Harvest Days" will be the theme of Dynamic-Eights Square Dance Club's monthly party night dance Thursday evening, Nov. 21, in CRA Clubhouse at Kearny Mesa. Dance starts at 8 p.m.

The club boasts approximately 80 members and this figure will double soon after graduation of the beginner's class. Regular dances are held every Thursday night at the clubhouse from 8 to 10 p.m.

Additional information can be obtained by contacting John Young at Lindbergh Field, ext. 1387.

Don O'Brien Wins In Master Class

In CRA Pistol Club action, Don O'Brien barely edged Roland Schneider in master class, 293 with 13Xs to Schneider's 291 and 12Xs.

O'Brien won going away in the .38 short national match over Jim Halfacre, 279 to 248. Bill Worthington won the expert class.

Warren Walker came away with a Thanksgiving turkey in a "luck shoot" where the targets are turned around with each shooter firing a single shot.

Pistol Club action resumes Sunday, Nov. 24 at the San Diego Police Pistol Range, 9:15 a.m.

Bicyclists Map Valley, Bay Tour

CRA Bicycle Club members will make a 25-mile Mission Valley and Mission Bay tour Saturday (Nov. 23), starting at 9 a.m. from the parking lot behind the DeFalco Bon Vivant supermarket at Mission Valley West.

A Thanksgiving turkey will be awarded in a raffle at the conclusion of the ride. Phone Myke Dickey, ride leader, ext. 2403 LF or (home) 279-2442, for additional information.

Jensen Will Head Sports Car Club

New officers were installed this month by CRA Sports Car Club, Spud Riggs, commissioner, announced.

They are Marvin Jensen, president, Stromberg Datagraphics Dept. 8030; Earl Godenschwager, vice president, Convair Dept. 586; Deanne Jordan, secretary, wife of Martin Jordan, Dept. 170 and Walt Slocomb, treasurer, Dept. 573.

Actively engaged in all phases of sports car competition with membership open to interested General Dynamics employes and families, the club meets the second Wednesday each month, 7:30 p.m. in the executive dining room, Lindbergh Field.

Those having interest in ownership, operation or maintenance of sports cars, both foreign and American, are invited to attend sessions.

Adventurers Slate Trip Into Sonora

Pinacate region of the Gran Desierto, Sonora, Mex., will be a target of CRA Adventurers Club's November trip, according to Ray Madden, coordinator.

Members will rendezvous on Thursday, Nov. 28, at noon at Espinoza Junction on Mexico Federal Route 8, 31 miles south of Sonoyta. From here, the group will caravan about 16 miles over Mexican woodcutters' roads to Hunter's Camp, approximately 2,000 feet high on the slopes of Cerro Pinacate.

Activities are scheduled through Sunday when members will return home or spend the day on the beach at Puerto Penasco. Members are asked to bring their own water and food. Firewood will be available at camp.

Garden Club Show Attended by 1,500

A turnout of approximately 1,500 was reported for CRA Garden Club's chrysanthemum, potted plant and hanging basket show in the Floral Bldg., Balboa Park. Entries totaled 356.

Honors for best bloom went to Mr. and Mrs. Henry Boyd while Mr. and Mrs. Charles Splinter won best three blooms and best arrangement.

Other winners included Irene Adams, best corsage in novice class and best potted plant; Bill Spann, best hanging basket, and Carolyn Buman, best corsage in open class. Lisa Sinnott, daughter of Jack Sinnott, won best children's entry.

Turkeys were presented best of show winners.

Gardeners' Party To Benefit Needy

A needy family will benefit when CRA Garden Club holds its annual Yule party, Dec. 4 in the Floral Bldg., Balboa Park.

Those attending will bring canned goods that will be distributed to a family in need during the holiday season. The club will complete the meal by contributing a turkey.

A gift exchange is planned for the party and turkeys will be awarded as door prizes.

Musicians to Meet At Theater Sunday

Members of the CRA Hi/Fi & Music Club, including the organ segment, will meet at the Fox Theater Sunday, Nov. 24, 9:30 a.m.

Arch Ellsworth, commissioner, said members will hear Mrs. Edith Steel and Don Keilhack play the newly renovated four manual Robert Morton pipe organ.



ON THE LINE—Two-seat training model of CF-5, new tactical support aircraft adopted by the Canadian Armed Forces, is shown here on assembly line of Canadair Limited, Montreal, as it nears rollout. Canadair is building 115 of aircraft for Royal Canadian Air Force and 105, designated NF-5, for Royal Netherlands Air Force.

Lightning Truly Strikes Twice, Smack on Safety Glasses Lens

Take it from F. J. Mormino Jr., "lightning" can strike twice.

On Oct. 2, the Fort Worth division metal fitter assembler was grinding out welds on F-111 assembly part when the burr broke and struck the right lens of his safety glasses. He suffered only a slight injury to his eye from the flying burr, which had been rotating at 80,000 revolutions a minute.

On Oct. 17 — about two weeks later — the same thing happened again. The burr again shattered the right lens of his safety glasses.

Unquestionably, safety representatives say, Mormino would have lost an eye in either case had he not been wearing safety glasses.

In the past, Mormino had admittedly been skeptical of wearing safety glasses. Now, he's a confirmed believer.

"You'll never find me doing **ANY** kind of grinding job — no matter how minor — without my safety glasses on," he says.

Mormino will soon join the ranks of Wise Owls, employes who have "saved" an eye by virtue of wearing safety glasses.



DOUBLE TROUBLE—F. J. Mormino Jr. has nothing but kind words for safety glasses. Right lens of each pair was shattered in similar accidents.

Air Force/Industry VE Meeting Slated

C. W. Doyle, Fort Worth division coordinator and value control administrator, will be panel moderator at the Air Force/Industry Value Engineering Conference at Cape Kennedy Dec. 4 and 5.

The panel will discuss "Problems of AFSC/Industry Interface."

Col. J. L. Mundorff, Air Force Plant Representative, and Lt. K. W. Starobin, Air Force VE coordinator, will attend.

You can buy U. S. Savings Bonds regularly for as little as 50 cents a week.

Nine Month GD Financial Report Given

Net income of General Dynamics Corporation and subsidiaries for the nine months ended Sept. 30, 1968, was $18,051,000, equivalent to $1.72 per common share, Roger Lewis, president, announced. This includes a write-off of excess costs on certain long-term surface ships and submarine construction contracts of $39,619,000 after taxes and a nonrecurring gain of $8,927,000, or 85 cents per share, on the sale of the General Atomic Division.

In 1967 net income for the first nine months was $41,572,000, or $3.99 per common share, including a marine contract write-off of $12,091,000 and a nonrecurring gain of $5,274,000, or 51 cents per share, on the disposition of securities.

During the third quarter of 1968 a loss of $15,805,000 was sustained, reflecting the after-tax write-off of $30,074,000 in excess costs on surface ships and submarine construction contracts. This compares with net income of $11,845,000 in the corresponding 1967 period.

Sales for the first nine months of 1968 were $1,919,407,000 compared to $1,568,252,000 for the corresponding 1967 period. Third quarter sales were $580,351,000 in 1968 and $558,928,000 in 1967.

"The losses on certain long-term surface ships and submarine construction contracts have been recognized at this time in accordance with our policy of writing off such losses as soon as they can be identified even though some of the ships will not be completed until 1970 or 1971," Lewis said. "These loss contracts are now in a sufficiently advanced state of completion to give us reasonable confidence as to the accuracy of our present estimate so that no further write-off should be required," he said.

F-111As Finish Thailand Tour

The detachment of five F-111As at Takhli Royal AFB, Thailand, has completed its tour of temporary duty and is being returned to the U. S., according to the Air Force.

The aircraft and crews will return to their permanent station at Nellis AFB, Nevada, where they will be used to train additional Tactical Air Command F-111 pilots.

While in Southeast Asia, the aircraft flew over 50 combat missions in testing their capability of penetrating a hostile area in a low-level attack mission at night in bad weather, the Air Force said.

CREASY SPEAKS TO PURCHASERS

Q. R. Creasy, value control coordinator, spoke to Fort Worth Chapter, National Association of Purchasing Management, recently at the Worth Hotel. His topic was "Profit Headaches: Take VE."

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the company.)

DAROLD K. SMITH (1956) from Convair division to senior engineer, Electronics, San Diego; **DAVID O. HIGLEY** (1965) from Electric Boat to Corporate Headquarters as financial analyst; **NORMAN R. HARPER** (1961) from Electric Boat to Corporate Headquarters as coordinator of employe services; **JOHN F. KENNEDY** (1956) from Quincy to senior supervisor, Electric Boat; **D. N. HALE** (1963) from Electronics-SD to Stromberg Datagraphics; **CHARLES F. DOW JR.** (1955) from Quincy to Electric Boat as staff plant engineer; **JACOB F. DALLINGER** (1951) from Electric Boat to design manager, Quincy; **DONALD W. STEWART** (1962) from Electronics, Rochester to Electric Boat as senior planning engineer; **LAVERNE E. DUGUID JR.** (1956) from Electric Boat to chief of general accounting, Quincy; **BRUCE M. BEREND** (1965) from Pomona to Convair as professional staffing representative; **MORRIS C. TOMBLER** (1939) from Convair to security officer, Stromberg Datagraphics; **PAUL E. HEIRONIMUS** (1950) from Convair to Pomona as senior design engineer; **JACK R. DETWILER** (1957) from Convair to Pomona as senior reliability engineer; **HANDSEL R. HOLEMAN** (1960) from Convair to Electronics, Rochester; **ARNOLD H. HOINES** (1955) from Convair to Quincy as AOR program manager.



SMALL TALK—Grover Tate and his daughter's pet burro, Pinnochio, "talk" things over during nine-day expedition into Panamint Valley.

California Living

Coyotes Gather at Campfire During Desert Trip by Burro

Grover Tate and Pinnochio camped out in California's rugged Panamint Valley (a miniature "Death Valley") for nine days recently to "see how frontier miners used to have it."

Tate is an administrative assistant in F-111 flight test at Edwards AFB. Pinnochio is his daughter's pet burro.

Tate slept under the stars most nights, with visits from coyotes, pack rats, bats and mice. "A band of coyotes came within six feet of our camp one night, but they went away."

Day time was different. Wildlife included snakes and a few wild burros.

He did enjoy some "niceties," spending one night in the cabin of a miner whom he befriended and another in a cabin abandoned in 1870.

"It was like a scene from a Western," he said.

Supplies for the trip included dehydrated food, 10 gallons of water (for drinking and bathing), a sleeping bag and 15 pounds of alfalfa pellets for Pinnochio.



AT ARMY SHOW—More than 5,000 attended Association of U.S. Army annual meeting in Washington, D.C., at which General Dynamics exhibits were prominent. At left, Gen. William C. Westmoreland, Army chief of staff, inspects Dynatrak, tracked vehicle from Canadair. In center Gen. Lyman L. Lemnitzer is briefed on tactical radio equipment, while at right Col. George Von Schwenitz, Austrian military attache, holds Redeye launcher. Included in GD exhibit were products of Electronics division, Convair, Canadair, Pomona division and Stromberg Datagraphics. A wide variety of new military equipment was displayed.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

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SUGGESTION REVIEW—Employe Suggestion Review Board members look on as P. D. Ferrara, director of engineering administration and services, demonstrates device for removing test data recording paper roll without damaging soft aluminum spool. From left: A. W. Reed, S. R. Sharp, L. A. Wood, P. T. Gardner, D. L. Fagan, E. D. Heller. Albert Aron, Dept. 574-1 electronics engineer, received $304 for suggesting simple device.

Formal Review Board For ESs Organized

A Convair division Employe Suggestion Review Board, with representatives from seven major departments, started meeting for an hour each Thursday 18 weeks ago on an informal basis to assure uniformity in decisions on Employe Suggestions.

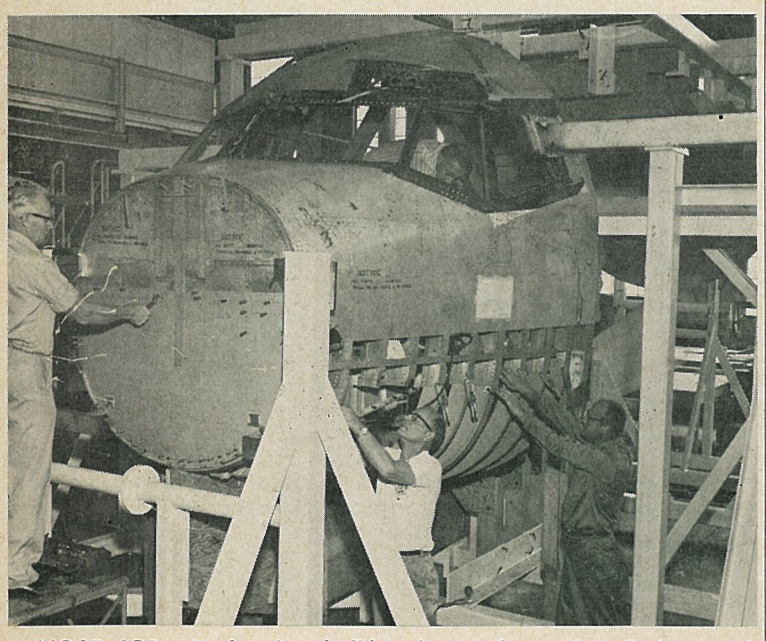
E. D. Heller, manager of cost reduction and value control, said the board is now being formalized with a Standard Practice directive to be issued for permanent board operation.

Members of the board are all managers or higher and have been appointed by their respective division staff members. Membership will be rotated.

Operations, research and engineering, material, industrial relations and finance departments have regular members and alternates. Launch vehicle programs and reliability control departments have ad hoc members and alternates to attend meetings in which ESs from those organizations are being considered.

Heller represents the finance department and is chairman. Other members and alternates, by organization, are:

(Continued on Page 2)



NOSE JOB—Performing bulkhead and frame installation work on first of two 707 nose section configurations at Convair are, from left, Dick Cox, development mechanic; Pinky Phillips, service mechanic; and John Nonzeta, assembler. In cockpit is Steve Kecskes, development mechanic.

Simulator Nose Section Now in Final Assembly

First of two 707 nose section configurations Convair division is fabricating for its Air Transport Total In-Flight Simulator (AT/TIFS) package is undergoing initial phase of final assembly.

The nose section was placed in its final assembly fixture recently in Bldg. 5, LF, where it will receive a new frame structure before being attached to a modified Convair 580.

Frank Signorelli, TIFS program manager, said work is on schedule with the first nose section ticketed for delivery to Tex Johnston, Inc., of Santa Barbara in March of 1969. The second section is scheduled for June, 1969, delivery.

Convair's task is the fabrication of two Boeing 707 nose section configurations for attachment to modified Convair 580 aircraft. These planes will be used by commercial airlines for training and retraining pilots of 707/

(Continued on Page 2)

'Prettiest Skin In Sky' Seen For Tri-Jetliner

A program designed to make Convair division's skin panels for its multi-million dollar DC-10 program the "prettiest in the sky" has been introduced with formation of a special 22-man committee headed by reliability control.

Jack Hurt, Convair's DC-10 program manager, outlined plans recently for the special program which he says will be, "an extension to, and part of, Convair's Craftsmanship program directed specifically for DC-10 skins and other critical parts."

Hurt said Convair's task will be an enormously important one as skin panels will be larger than any ever handled at the plant and "must be delivered to McDonnell Douglas' Long Beach plan in perfect condition."

Jess Cook of reliability control will be committee chairman. Other members are R. R. Hoover, J. C. Ruzich, J. S. Bryant, P. R. Carlton, C. C. Harper Jr., T. E. Johnson, H. S. West, E. J. Pawka, J. G. Folchi, H. O. Hoelter, H. N. Brown, J. F. Speed, H. B. McIntosh, C. E. Goodale, J. E. Burgeson, W. F. Weidenfeller, Sam Petcher, F. W. Sickler, Dave Epstein, A. D. Rinaldi and R. L. Richards.

Russ Medlock, director of reliability control, said the committee is comprised of members of all departments working on the DC-10 program and that its objective is primarily one of prevention—to solve problems before they occur. It will meet at both regular and special sessions.

Hurt said these premium skins, as well as other DC-10 components, must be the finest Convair ever produced. Ability to provide a top quality product on the DC-10 program will help assure continued success of division objectives for years to come, he indicated.

He cited the necessity of flawless skin panel fabrication because many of the DC-10s will be delivered to airlines without exterior paint. Appearance is a matter of vital concern, he pointed out, as airline passengers tend to associate external beauty with internal reliability and blemishes detract from the true quality of structural integrity.

An extensive poster campaign featuring slogans and illustrations urging "kid glove treatment" of DC-10 skin panels and components will be utilized by the committee.

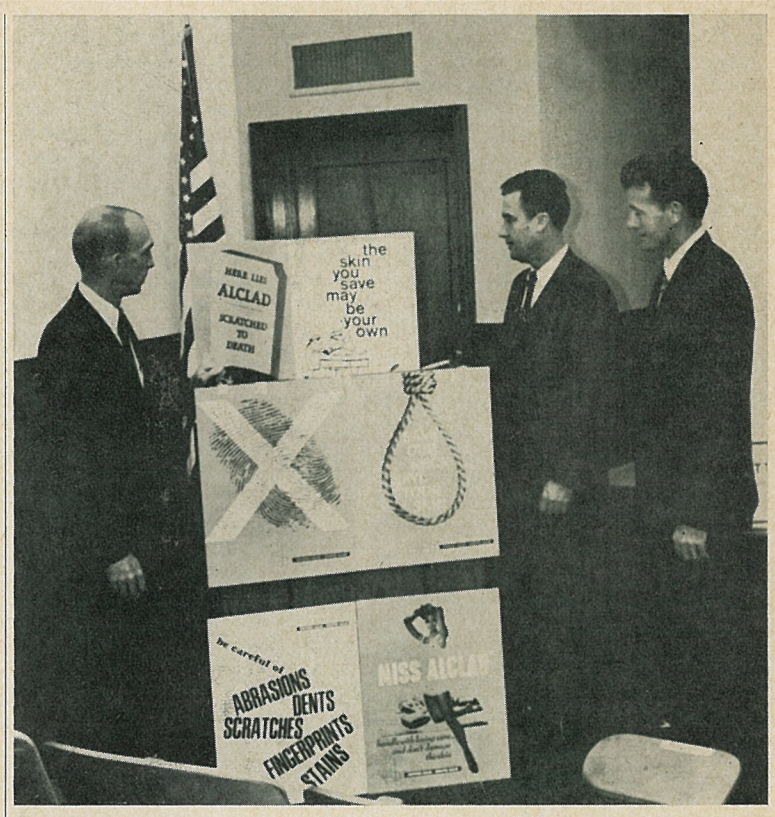
Award Checks Go Over $4,000

Five Convair division employes recently received award checks totaling more than $4,000 for individual Employe Suggestions.

J. A. George, an inspection leadman in Dept. 149-3, received $1,606 for a suggestion implemented in a former production program which resulted in revised inspection procedures in a magnetometer test area and saved the division $19,063. He previously had received a $300 partial-payment award for the suggestion.

R. J. Baldwin, a test data technician in Dept. 574-1, received $695.60 for devising and suggesting use of a calibrated reference table in recorders for precise galvanometer and grid line alignments. The reference table was made from scrap and saves both time and waste of oscillograph

(Continued on Page 2)



REMINDERS—Posters which will be used in campaign urging "kid glove treatment" of DC-10 skin panels and other components are reviewed by, from left, Jack Hurt, DC-10 program manager; Russ Medlock, director of reliability control; Jess Cook, chairman of special 22-man committee promoting campaign.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

Q—How are Salvage Yard prices set? Often they appear close to retail rates.

A—As a general rule, the price level is that which could be obtained from a commercial disposal channel, plus a small administrative fee for operating the yard. In most instances, prices are below retail.

★ ★ ★

Q—Why aren't hourly people allowed to pay up to 10 per cent of their wages into the Stock Plan? I have heard answers ranging from "They can't afford it" to "They show no interest."

I think ownership in a company, even if it is a very small portion, leads to better craftsmanship, greater pride in job, company and product, and should be encouraged.

A—Hourly employes will be permitted to contribute up to 10 per cent, beginning in 1970. The Hourly Savings and Stock Investment Plan, which was effective Jan. 1, 1966 at Convair division, provided that members could contribute either 2 or 4 per cent of pay during 1966 and 1967; either 2, 4 or 6 per cent during 1968; either 2, 4, 6 or 8 per cent during 1969; and 2, 4, 6, 8 or 10 per cent in 1970 and thereafter.

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Q—For the convenience of employes who travel regularly for Convair, would it be possible to send paychecks to our banks?

A—Yes. Employes who are on a travel order may have their checks mailed to a bank by entering the bank's name in the box marked "Disposition of Check" on the travel order and forwarding your bank deposit slip to Payroll Section.

Convair is now mailing and depositing more than 600 checks each double payday, and in order to keep this effort to a minimum the travel order is used as a control.

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Q—When identifying an employe, **GD/NEWS** usually carries only the individual's department number. For the vast majority, this is meaningless. Wouldn't it be more informative to use the department name?

A—Doubtless it would. The department number system was adopted purely as a space and time saver. It wasn't the lazy man's way out, either. Some departments have lengthy titles and much repetition could add to an aggravating space problem. As this affects GD/NEWS nationally, the idea deserves some study.

Formal Review Board For ESs Organized

(Continued from Page 1)

Operations — D. L. Fagan; W. E. Wise (alternate); research and engineering — P. D. Ferrara; P. T. Gardner (alternate); material —L. A. Wood; W. G. Evans and C. G. Keach (alternates); industrial relations — R. W. Brown; Eugene Fox and S. R. Sharp (alternates); launch vehicle programs — W. W. Johnson; R. W. Keehn and G. D. Davis (alternates); reliability control — A. W. Reed; R. S. Campbell and R. H. Gilliland (alternates); finance —J. F. Scanlon; D. R. Pardee (alternate).

Cases for review may be submitted to the board by any manager or employe of higher classification when other means of resolving problems or questions have been exhausted. In controversial cases, the board may call in representatives to present all points of view.

Heller said any employe below manager level must attempt to resolve problems on ESs through management up to the level of manager. If that fails, the manager appeals to the board.

Each board member present when a case is reviewed has one vote and all decisions by the board are final.

Besides reviewing and resolving ES problems, the board automatically reviews all suggestions in which awards of more than $500 are to be made and has initiated requests for SP revisions to clarify operating and administrative procedures.

In addition, the ES Review Board in recent meetings has:

1. Made decisions on whether additional payment should be made when an ES has been found to have wider reaching effect or cover more parts than originally estimated.

2. Made decisions on whether implementation of some actions actually resulted from an ES.

3. Reviewed claims for alleged savings in specific areas where differences of opinion existed.

4. Reviewed cases in which awards were being made for safety considerations.

5. Reviewed cases in which some departments felt implementation of the suggestion would not be "economically feasible."

6. Made rulings when decisions were needed on whether suggestions were "part of the suggester's job."

7. Reviewed cases of a peculiar nature.

8. Made decisions on cases in which the ES analyst had been unable to get firm "yes" or "no" answers from departments.

Log Book Entries

Awards

Employe Suggestion awards approved for the week ending Nov. 15.

Dept. 401, A. L. Bishop Jr., 149, W. L. Whiteman, $41.65 each (joint award); 979, K. N. Brackin, $34.70; 027, R. E. Cloud, $147.20; 761, C. J. Eskew, $29.30; 401, C. Farmer Jr., J. L. Flora, $46.50 each (joint award); 144, H. M. Gallant, M. J. Sorg, $26.80 each (two joint awards); 001, W. J. Gramse, $32.90; 015, J. B. Hinojos, $15.00; 780, T. Hirasaki, $15.00; 850, E. E. Hixson, $1,368.60; 401, V. E. Johnson, $16.00; 027, J. L. Killeaney, $24.50.

Dept. 143, R. Lucas, R. R. Reekers, $7.50 each (joint award); 001 L. V. Maldy, $15.00; 144, L. G. Menches, $15.00; 143, P. H. Milne, $15.00; 143, J. J. Murphy, $42.30 (two awards); 507, C. R. Olden, $15.00; 015, W. L. Porter, $15.00; 143, R. R. Reekers, $23.00; 733, J. A. Rehm, $27.30; 001, C. B. Reid, $601.10; 979, N. M. Robinson, $15.00; 059, M. R. Verduzco, $40.70; 401, J. L. Vidovich, $15.00; 144, R. L. Wagner, $85.70; 015, W. L. Woodward, $15.00

Employe Suggestion awards approved for the week ending Nov. 22.

Dept. 574, A. Aron, $304.40; 015, L. S. Boland III, $15; 001, S. Boyd, $15; 143, A. M. Contreras, $174; 130, J. B. Emerick, $15; 144, H. M. Gallant, M. J. Sorg, $43.40 each (two joint awards); 027, E. M. Gatlin, $30; 840, M. F. Gonzales, J. E. Hoy, $631 each (joint award); 001, D. C. Herstedt, H. G. Mondy, $7.50 each (joint award); 130, B. J. Hicks, $15; 045, I. D. Howarter, $16.70; 027, T. W. Kerns, $100.10.

Dept. 027, W. Lane II, $20; 045, M. M. Lopez, $18.10; 144, E. McLeod, $35.90; 143, J. B. Miller, $15; 780, W. M. Myers, $66.10; 027, F. Patruno, $15; 020, W. H. Ratliff, $47.10 (two awards); 001, M. J. Russell, $15; 001, W. E. Senay, $15; 979, E. W. Stewart, $289; 027, A. Strakbein, $16.60; 820, H. M. Sturdyvin, $2,037.60; 518, G. Tompkins, $191.80; 015, L. William, $15; 045, W. Wantuck, $15.

Retirements

BEAUCHAMP—Myrtle B., Dept. 019. Seniority date Aug. 12, 1948, retired Nov. 8.

ELLES—Joseph, Dept. 005. Seniority date July 11, 1960, retired July 16.

HAMILTON—John G., Dept. 531-2. Seniority date Nov. 4, 1942, retired Nov. 8.

NEWELL—Demcey B., Dept. 31. Seniority date Nov. 3, 1959, retired Sept. 23.

SMITH—Russell U., Dept. 761. Seniority date Oct. 29, 1952, retired Nov. 4.

Rider-Driver

RIDE WANTED — From San Carlos, near Navajo center, to Kearny Mesa plant, 7:30 a.m. to 4:15 p.m. shift. Phone Ruby Myrick, ext. 2828 KM, or (home) 465-6771.

RIDE WANTED — From San Carlos area to Lindbergh Field plant, 7 a.m. to 3:30 p.m. shift. Phone Will Richeson, 463-1891.

RIDE WANTED — From Washington and 4th to Kearny Mesa plant, 3:30 p.m. to midnight shift. Phone Dorothy Mitrovich, ext. 1846 (days) or 295-7451 (evenings).

Births

LARNER—Daughter Michele Christine, 7 lbs. 4 oz., born Nov. 6 to Nancy and Walt Larner, Dept. 566-3.

KINNEY—Son Jeffrey Alan, 7 lbs. 15 oz., born Nov. 17 to Sandra and Peter Kinney, Dept. 401-5.

Deaths

JOHNSON — Harvey Jr., Dept. 027. Died in auto accident Nov. 15. Survived by his wife Barbara and 3 children.

General Dynamics News

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Award Checks Over $4,000 For Cost Reduction

(Continued from Page 1)

paper.

G. T. Vargo, senior buyer in Dept. 810-0, received $585.20 for proposing return of old activator assemblies from Atlas E and F missiles to the vendor for overhaul instead of new components being purchased, installed and tested.

F. W. Sickler Jr., a metals and process engineer in Dept. 572-3, received $519.60 for suggesting installation of a diamond-coated milling cutter and diamond-coated hole saw in a lab at Lindbergh Field for use in cutting of flat and concentric test specimens. Use of the new equipment instead of conventional mill and lathe cutters saves machine and operator time and reduces cutter wear.

Bill W. Jones, manufacturing dispatcher in Dept. 059, received $825.40 for suggesting an alternate time-saving procedure for removal of sharp corners and edges on F-111 lower fairing cowl castings. A hand router, altered cutter and flat and guide plates now are used instead of machining techniques.

Prescription Glass Markings Defined

A number of employes are creating hardships on themselves by purchasing out-plant prescription safety glasses not approved by the National Bureau of Standards, according to Richard Schulz, senior safety engineer.

Employes are free to buy glasses where they wish, but each lens shall be distinctly marked in a manner by which the manufacturer may be identified. He said such markings should be clear-cut and permanent and placed so as not to interfere with vision.

Schulz also pointed out that, in addition to the lens markings, only certian type frames meet requirements established by the NBS. He said employes can purchase approved prescripiton safety glasses at Convair safety cribs at greatly reduced prices.

Wives Slate Ambitious Holiday Fare

An ambitious and varied holiday schedule is on tap for members of the Convair Wives Club.

December activities opened today (Dec. 4) with a National City-Chula Vista area tour of Fern Gardens, Ridgeway Orchid Gardens and Bradley's Gourd Farm. Members and guests were to meet at the South Bay Shopping Center in National City at 10:30 a.m.

On Monday, Dec. 9, 10 a.m., wives will gather to decorate the CRA Clubhouse auditorium Christmas tree. Anyone wishing to increase service hours is urged to attend.

Due to the holidays, a change in the regular potluck date has been prompted. Now scheduled is a combined November-December potluck in the CRA Clubhouse auditorium on Wednesday, Dec. 11. Club president Mrs. Paul Brock says this will be a planned menu and she urges members to bring only vegetables, salads or desserts. Potluck chairman is Mrs. John McIntyre. Mmes. Robert Browning and Lewis Chapman will be hostesses.

Christmas dinner dance will be held at the Wagon Wheel in Santee on Saturday, Dec. 14, 7:30 p.m. Price is $10 per couple for the steak dinner and dance. Reservations, which must be in by Dec. 10, can be made with Mrs. Archie Ellsworth at 448-2268.

Site of the annual Christmas luncheon will be the LeBaron Motel in Mission Valley on Wednesday, Dec. 18, 11:30 a.m. Regular business meeting will follow the luncheon and gifts will be exchanged. Price of gifts is not to be less than $1.50 nor more than $2. Christmas music will be provided. Reservations can be placed with Mrs. Marge Allen (583-2868) or Mrs. Anita Klepach (264-1013). Reservation deadline is Dec. 16.

Simulator Nose In Final Assy.

(Continued from Page 1)

720 aircraft.

Qualifying pilots in the 707 cockpit will fly the airborne simulator with its authentic 707 controls and instruments. In-flight problems will be fed into a computerized system, causing the Convair 580 aircraft to react with 707 characteristics.

Backup pilots in the Convair cockpit will monitor and control performances of qualifying pilots and will be able to disengage simulator controls and return the aircraft to normal Convair 580 performance, if necessary.

The TIFS program will save airlines thousands of dollars because of low operating cost of the Convair 580 and the fact that it will not be necessary to take a 707/727 out of revenue service for training purposes.

Signorelli said two recent contracts totaling $756,000 have pushed the total TIFS package past the $2 million mark.



PLANNING AWARDS—Scholarship committee of Convair's Management Club discusses plans for awarding four $500 scholarships to outstanding sons and daughters of Convair employes graduating from high school in 1969. From left, clockwise, Gene Hartzler, Larry Gilmore, Wayne Turner, committee manager, Gene Earl and Dick McGuire.

Convair Management Club Again To Award Four $500 Scholarships

Plans for again awarding four $500 college scholarships to sons and daughters of Convair division employes for the 1969 academic year are being formulated by the scholarship committee of Convair's Management Club.

Wayne Turner, senior educational specialist, heads the committee. Other members are Larry B. Gilmore, Gene Hartzler, Dick McGuire and Gene Earl. George Cowan is club director of community activity.

Winners will be selected by the committee at the end of the school year from among sons and daughters of Convair employes graduating from high school in 1969 who have shown outstanding academic achievement. The $500 grants will be applicable to the college of their choice.

Application forms and booklets outlining scholarship details are to be printed by Jan. 17, 1969, and distributed to schools by Feb. 7. Application deadline has been set for March 28 with finalists to be selected by May 2. Interviews and final selection is slated for May 30 with the presentations and award dinner on June 13.

Turner said application forms and booklets also could be obtained at the educational services office.

Specialist Earns Navy Commendation

David K. Chigos, an education specialist in Convair's Dept. 130-3, has received a letter of commendation from RAdm. Alan Bergner, commander of the U. S. Naval Training Center in San Diego, for his volunteer assistance in helping establish a program of resident college courses for personnel at the center.

The program, patterned after a similar in-plant program at Convair, includes use of College-Level Examination Program (CLEP) testing and on-station courses given by United States International University.

Chigos, before joining Convair a year ago was officer-in-charge of the Leadership School at the Naval Training Center.

'Managerial Test' Class Completed

Twenty one employes from Convair division management systems, data systems, data processing operations, methods and procedures, office services and indirect budgets functions recently received certificates for completing a Convair Management Club-sponsored "National Managerial Test" course.

D. R. Pardee, manager of management systems, moderated the 13-week course, which included showing o fthe "National Managerial Test" films at beginning and closing sessions and 11 related case-study films at interim sessions.

Receiving certificates were E. J. Boggus, G. O. Withem, F. G. Pallan, G. G. Rosbrook, F. D. Schwend, C. K. Twohey, R. A. Wallace, O. J. Ward, G. R. Jacob, G. L. Davis, C. D. Dismuke, K. A. Kerr, J. W. Spillman, R. B. Williams, R. W. Shaffer, C. L. Van Deusen, D. B. Zink, C. H. Bowen, R. J. Waller, George Palma and W. J. Lethbridge.

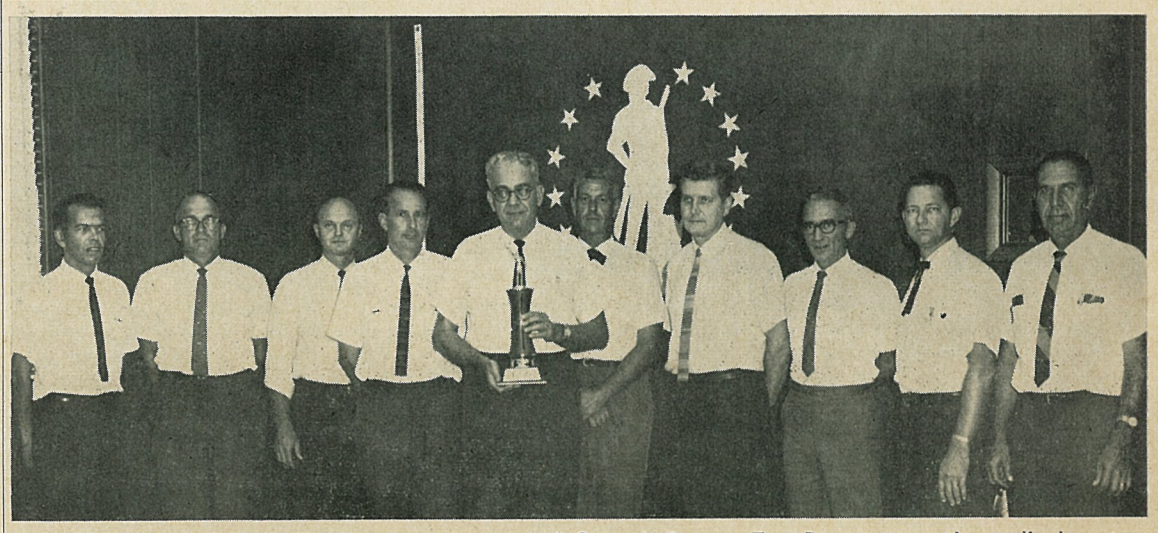
Forty-eight division employes are currently enrolled in a second class, being moderated by Boggus, which will conclude Dec. 16.

Salvage Sale Set For Dec. 7 at LF

An employes' salvage sale will be held from 8 a.m. until noon Saturday (Dec. 7) at the Lindbergh Field plant salvage yard.

Entrance will be by employe identification through Gate 5. Children and pets are not allowed.

First salvage sale next year is scheduled Jan. 4 at the same location.



EASTERN SAFETY—K. E. Newton, manager of Convair Eastern Test Range operations, displays trophy received by ETR employes for full year without lost-time accident. Members of staff looking on, from left, are Digby Ljungquist, R. W. Luccas, R. D. Beasley, O. H. Reed, Tom Chitty, Dan Sarokon, N. J. Freeman, Q. E. Gilmore and P. L. Dudney.



MANAGEMENT CLUBMEN—Attending fourth annual General Dynamics Management Club meeting at Fort Worth division were: Front row, from left, W. E. Magnuson, NMA director, Convair division; Hubert Greenspahn, guest, Material Services division, Chicago; D. T. Barber, club president, Convair VAFB; Donald Crall, club president, Fort Worth, Edwards; R. E. Fixsen, club president, Electronics-SD; F. M. Callan Jr., NMA director, Fort Worth division; H. M. Stupinski, club president, Quincy division; W. F. Chana, club president, Convair division; John Howell, club president, Fort Worth division. Back row, from left, A. L. Rambeau, Corporate Headquarters; Sam Masters, club president, Stromberg-Carlson; Frank Anzevine, club immediate past president, Stromberg-Carlson; Dino Polselli, club president, Electric Boat division; Larry Failor, NMA director, Edwards; Jim Haney, club president, Pomona division; Harvey Simmons, club vice president, Electronics division, Rochester; W. H. Jayne, guest, Freeman Coal Mining Co., Chicago.

Management Club Presidents Confer During NMA Convention in Texas

Greater coordination of effort and timely exchange of information among General Dynamics Management Clubs was emphasized last month as representatives of nine GD clubs met at Fort Worth coincident with the NMA annual convention.

Faris M. Callan, Fort Worth division, NMA director for Zone B, welcomed the group, which included W. H. Jayne of Freeman Coal Mining Corp. (General Dynamics subsidiary) and Herbert Greenspahn of Material Services division, present to observe NMA and consider organizing clubs at their operations.

Speaking for Corporate Headquarters, A. L. Rambeau pointed out the importance to each club of working toward objectives, written and well thought-out in advance, with goals established for each year and progress checked periodically. He pledged continuing support for division/subsidiary clubs by CHQ and stressed that among overall goals is increased participation in club affairs by minority groups.

W. E. Magnuson of Convair division, an NMA director, moderated a round-table discussion of club problems and ways in which some clubs have solved them. Among new ideas developed for increased participation in club meetings was encouraging attendance of wives, subsidizing meal expense, including on meeting programs short films about products or concerning other divisions / subsidiaries, shortening business announcements at meetings to a minimum.

Larry M. Failor of Fort Worth division's F-111 flight test at Edwards AFB, an NMA director, will chair the 1969 annual meeting of General Dynamics club representatives to be held in conjunction with the NMA national convention at Birmingham, Ala.



SAY CHEESE!—Huge horizontal stabilizer which Convair division is building for C-5 empennage set is photographed by TV-movie crew while being loaded aboard railcar for delivery. Films showing loading operation will be used by Santa Fe Railway in advertising, promotion campaigns.

Stabilizer Section No. 6 Shipped to Marietta

Horizontal stabilizer section for Convair division's sixth C-5 empennage set got "center stage" treatment recently when loaded for delivery to Lockheed-Georgia Co.'s plant at Marietta, Ga.

On hand to shoot footage of the loading operation to use in a variety of publicity purposes was a TV-movie team from Wilding Productions, Inc., of Hollywood.

Santa Fe Railway retained the company and a national advertising agency to film and tell the story of the railway's handling of Convair's mammoth C-5 empennage sets. Horizontal stabilizer section itself is 68.7 feet wide. Vertical stabilizer is 36 feet in height.

Film of the operation will be used in the railway's TV commercials and for a documentary to be used for institutional purposes.

Loading operation proved a successful "first take," with camera crews clicking away as the section was lifted from its trailer and lowered into the bed of the huge railcar, one of four specially designed by Convair.

The cars are among the largest in rolling stock today, being 89 feet, four inches long and 19 feet, six inches above the rail in height. Construction of the cars was a joint venture of Convair and Santa Fe.

Because of their length, the cars boast special cornering apparatus and must be specially routed. Two additional cars will be available in December of this year, bringing the Convair-Santa Fe railcar fleet to four.

ELECTRO DYNAMIC HOSTS GD PANEL

Promotion and development of liaison among divisions / subsidiaries to aid in standardization of metrology procedures in equipment usage highlighted the recent semi-annual conference of General Dynamics' Corporate Measurement Control Panel.

Electro Dynamic hosted the event at Woodbridge, N.J.

Such liaison, it was pointed out, will aid in evaluation of equipment being utilized by all operating units and allow for interchangeability of equipment.

Latest government requirements pertaining to metrology also were discussed. The panel's next meeting will be May 5-6, 1969, and will be hosted by Electronics division in Rochester, N.Y.

Team Conducts Certification Tests For FAA in Holland

Certification flight tests to obtain Federal Aviation Administration approval for two foreign airlines to operate the Sperry SP-20 Autopilot System in their modified Convair 640 (340D/440D) aircraft were conducted recently in Holland by General Dynamics personnel.

Requesting the certification tests were Air Algerie of Algeria and S. A. Air Transport, a Swiss firm.

Engineering personnel from Sperry Corporation and the Department of Transportation, Federal Aviation Administration Western Regional Office, participated in the tests, conducted at the Aviolanda modification facility at Woensdrecht, Holland.

Members of the flight test crew were Paul Canegaly, flight test engineer and Convair FAA coordinator; Carl Jacobson, FAA test pilot; Nate Murphy, Convair flight captain; Bud Davies, Convair instrumentation engineer; Wally Frei, FAA aerospace engineer; George McGowan, Sperry field service engineer, and Nick Flick, Martins Air Charter pilot.

Also participating in the tests were Dave Beals, Sperry technician; Laurel Dilbeck, FAA manufacturing inspection; Rene Jaeger, Aviolanda shop foreman, and Wayne Eddington, Convair customer service engineer.



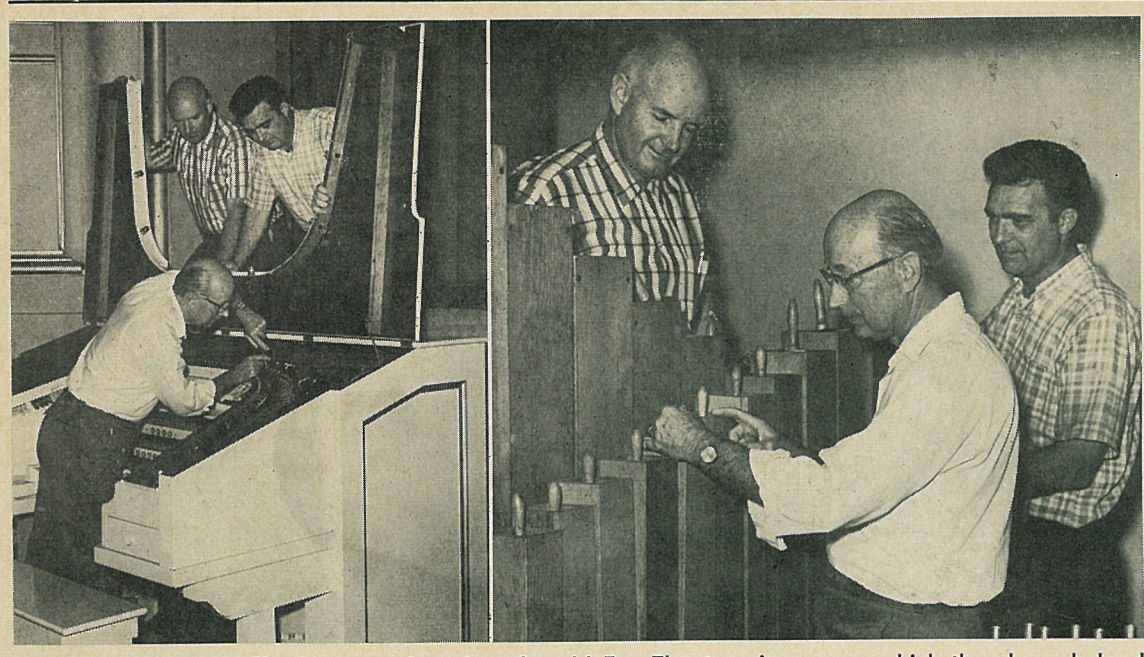
TEST GROUP—Participants in certification flight tests obtaining FAA approval for two airlines to operate the Sperry SP-20 Autopilot System in their modified Convair 640 aircraft were, from left: Carl Jacobson, FAA test pilot; Dave Beals, Sperry technician; Nate Murphy, Convair flight captain; Bud Davies, Convair instrumentation engineer; Wally Frei, FAA aerospace engineer; Laurel Dilbeck, FAA manufacturing inspection; Rene Jaeger, Aviolanda shop foreman; Wayne Eddington, Convair customer service engineer; George McGowan, Sperry field service engineer; Nick Flick, Martins Air Charter pilot, and Paul Canegaly, flight test engineer and Convair FAA coordinator.



DEMONSTRATION—Convair division's E. W. Boteler, third from right, division VS(X) project director, and staff assistant Richard M. Sewall, right, greet members of Navy team who demonstrated A-NEW advanced anti-submarine warfare data computer system. From left are Cdr. Ted C. Steckbauer, WST Div., Naval Air Systems Command; Cdr. Al Phillips, A-NEW project officer; Leon Collier, avionics director, NASC, and Capt. Fred Baughman, VS(X) project manager.



PANELISTS—Attending recent semi-annual conference of General Dynamics' Corporate Measurement Control Panel were: seated, from left, F. L. Broccolo, Stromberg-Carlson; Earl Peacock, Electronics; Cal Franklin, Electronics-SD; Ed Bader, Electronics; P. I. Harr, Corporate Headquarters; E. E. Brewer, Pomona, chairman; standing, from left, L. W. Fenelon, Electric Boat; Earl Murphy, Fort Worth; H. R. Cavanaugh, Canadair; Gerald Granduke, Electro Dynamic; George Kaup, Electro Dynamic; George Robinson, Canadair; J. H. Gardner, Stromberg Datagraphics; Al Woodington, Convair; W. F. Griffin, Quincy; L. T. Clark, Fort Worth.



ORGAN REPAIR—Checking wooden pipes for old Fox Theatre pipe organ which they have helped refurbish (right photo) are, from left, Bob Lewis, Arch Ellsworth, Bob Wright. In left photo, Ellsworth tightens console stop-board as Lewis and Wright look on.

Spare-Time Task

Convair Men Bring New Life To Venerable Pipe Organ

Three Convair division employes — C. R. (Bob) Lewis, Robert Wright and Arch Ellsworth — have spent more than 350 spare-time hours during the past 14 months restoring a pipe organ that had been collecting dirt and damage since 1934 backstage at the Fox Theatre.

Lewis, an electronics engineer in Dept. 550-0, managed the restoration project and also had assistance from three Pacific Telephone Co. employes, one from Gulf General Atomic and a local professional organist.

The console of the four-manual, 31-rank Robert Morton organ has been cleaned and all its sheepskin bellows and parts replaced, contacts rebuilt and wooden pipes, air chests and reservoirs repaired and revarnished.

Of the organ's 2,260 pipes, 180 made of tin had been smashed — some apparently from someone falling from a catwalk in the organ pipe loft. They were cut apart, rolled out, reformed and soldered back together by Lewis at his home workshop.

Lewis previously spent 15 years of spare-time building the pipe organ at La Jolla Lutheran Church — using an organ he had played at the former Granada Theatre from 1933 to 1948 as its base.

He has a Conn super deluxe theatre organ like the one at San Diego stadium in his Rancho Santa Fe home and has a daughter studying organ under James Brubeck.

Ellsworth, a Dept. 533-2 senior electronics engineer, recently organized a new CRA Organ Club and previously had converted an old theatre pipe organ to electronic operation at his home (**GD/NEWS, Sept. 6, 1967**).

Wright, a Dept. 595-0 computer technician, was asked to assist on the organ restoration because of his meticulous spare-time restoration work for six years on the Star of India.

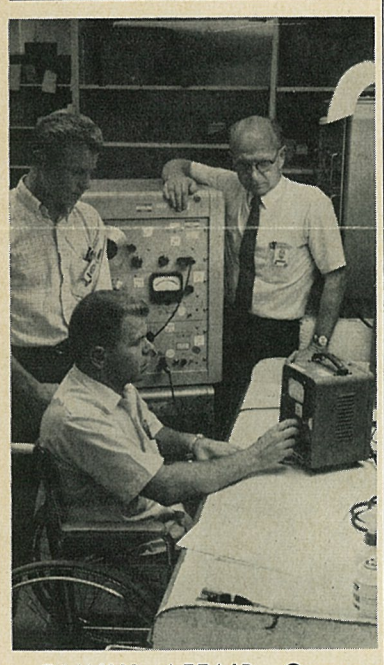
Wright cleaned and repaired many of the organ pipes as much as 65 feet above floor level in the pipe loft and refurbished two of the organ's echo chambers. Wives of the men also assisted with cleaning tasks.

The three Convair men said the old organ, believed the only four-manual still in a theatre in California, made beautiful music again Oct. 15.

That's when Mrs. Edith Steele, 79, who had been opening night artist using the organ in 1928, returned for a look at the restoration project.

Although there's still some work to be completed, plans are being made for a series of public concerts at the Fox by some of the world's leading organists.

It will be a fitting tribute to a lot of work by the three Convair men who have given the old organ a new lease on life.



FAMILY AFFAIR—George Forbes, right, started at Convair in 1936. His son, Robert, center, came to work 12½ years ago and now Robert's son, Michael, left, is carrying on tradition.

Forbes Family 'Truly Convair'

Working at Convair is a tradition with the Forbes family, which boasts three generations employed either at Lindbergh Field or Kearny Mesa.

George Forbes, quality control engineer in Dept. 149-8 at Lindbergh Field, started the chain back in 1936.

George's son, Robert, 40, who is a calibration technician in Dept. 142-1 at Kearny Mesa, came to work for Convair 12½ years ago and now two of his sons, Michael, 20, and Merrill, 18, also work for Convair.

Michael is a bonded plastics inspector in Dept. 059 at Lindbergh Field, joining Convair a year and a half ago.

Merrill just recently joined the Convair family. He's a stock clerk in Michael's department.

In addition, Robert's wife, Jeannine, also is a Convair employe and George's wife, Virginia, formerly worked for Convair both in San Diego and Fort Worth for 14 years. Jeannine is a statistical clerk at Lindbergh Field in Dept. 059-5.

McGinnis' Team Pockets Honors In Spearfishing

Jim McGinnis' team swept the first three places in the last spearfishing contest of the year at Bird Rock in La Jolla to easily win top honors in the CRA Delta Diver season competition.

McGinnis' team finished with 206 points to 156 for runner-up Jorge Zorrilla's team. Third place went to Bob Nicholas' team with 146 points.

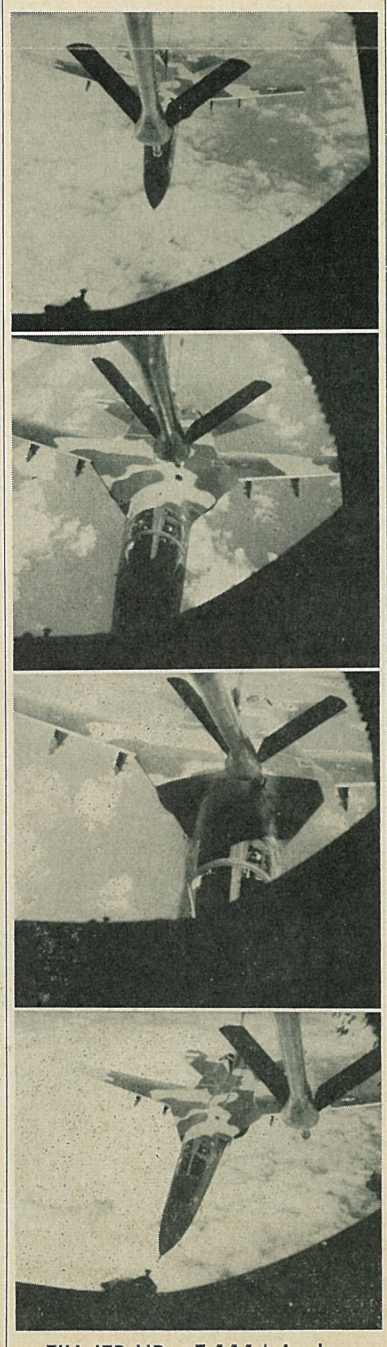
Sweeping the final contest for McGinnis' team were Hal Reeser (77 lbs. of fish), Bill Howard (53½) and Loren Batchman (23½).

The club's Christmas party will be held Dec. 14, 8 p.m., at Batchman's residence. Members are asked to contact their team captains for reservations.

Engineer's Poster Places in Contest

Convair division's Roger Benson, a research engineer, won second prize of $50 and a bronze commemorative medal in the San Diego 200th Anniversary poster design contest.

Benson designed a poster in blues, yellow and reds with a collage effect of San Diego historical sites. Predominate in the design is an Atlas missile.



FILL 'ER UP—F-111A is shown refueling from KC-135. Sequence from top shows aircraft approaching, hooking up, then detaching and continuing mission. Black area in second from bottom photo appears to be shadow cast by part of tanker's tail.

Press Operator's Voice Recorded For Album

Friends of Rev. James Ewings, punch press operator in Convair's Dept. 732-0 at Kearny Mesa, now can enjoy hearing him sing at their leisure.

Ewings recently produced his first recording — an album of 10 religious selections with "How Great Thou Art" as the title number — on the Anodyne Recordings label.

A Convair employe 15 years and veteran of two U. S. Navy duty tours, Ewings has been under contract for seven years to Religious Film Foundation in Hollywood and previously was featured soloist in the film "Congo Awakening" and on religious TV productions.

"It's Real," one of his featured numbers in "Congo Awakening," is included in the new album.

Ewings is pastor of Faith Tabernacle of the Church of God in Christ in South San Diego, which he helped organize five years ago, and devotes much of his spare time to church work.

He has loved to sing since he was a child, began professional voice training when he was 17, majored in music at North Carolina State College and has studied under several local voice teachers.

Ewings received his theology degree in 1956 from Linda Vista Bible College and Seminary and previously also served as associate pastor and minister of music for Jackson Memorial Church in San Diego.

He is featured soloist at frequent church conventions, retreats, banquets and special programs. He and his wife, Gaynella, have seven children ranging from 16 months to 15 years, including five already following in their father's footsteps by singing in the church choir.

Selections for Ewings' new album were tape recorded at Anodyne's San Diego studios with piano accompaniment. Marimba and organ were taped and added later before the recordings were "pressed" in Hollywood.



SOLOIST—Rev. James Ewings, Convair punch press operator, displays copy of his first record album. He also has been featured soloist in religious motion picture and TV productions.

The piano accompaniment was by Beverly de la Bretonne, wife of Charles M. de la Bretonne of Convair's Dept. 763-0. De la Bretonne sings bass with the Jubilaires Quartet, heard at 8 a.m. Sundays on Radio Station KSON.

Ewings said he has turned down secular music singing offers in Hollywood, preferring to devote his vocal talents to religious endeavors.

His colleagues at Convair obviously enjoy his singing, too. More than 50 have purchased copies of the new album from him during lunch hours and coffee breaks.

Cafeteria Style

Wildfowl Turn Domestic; Dine on $80 Chicken Feed

The number of people who would like to make "duck soup" from two of General Dynamics' most popular mascots is increasing as a result of construction activity on Harbor Island in San Diego bay.

Donald and Daisy, mallard mascots at Convair's high-speed wind tunnel (Dept. 507-0) on the bay, have had to curtail their excursions to the island and have had at least 20 "close calls" from kids, dogs and adults intent on taking them home "for dinner."

Donald is 8 or 10 years old and has been at the wind tunnel 6½ years. Daisy, a 3-year-old female, was turned loose 2½ years ago by Roger Bucaro, an instrumentation technician.

The two ducks roam a wide area of the bay and are fed daily by C. G. "Andy" Anderson, compressor systems operator at the wind tunnel for 11 years. He estimates he's spent more than $80 for chicken feed for the pair over the years. A white-feathered domestic duck has joined Donald and Daisy for the handouts in recent months.

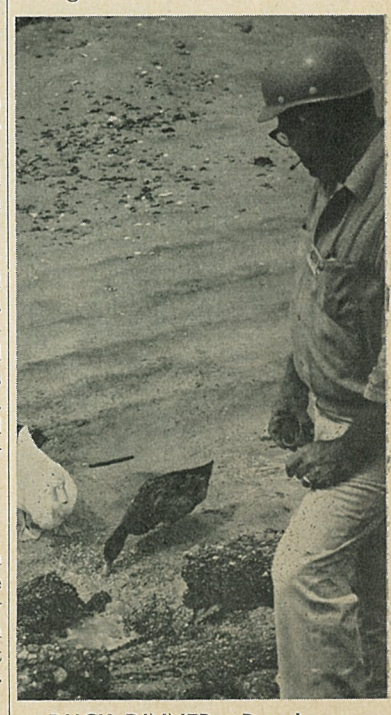
Donald and Daisy will sometimes eat out of Anderson's hand but won't come close if there's a stranger around. Although considered "basically lazy," Donald has been known to fly across Harbor Island to evade capture.

A dog once pursued Donald across the channel and became so exhausted he almost drowned before he was rescued by youngsters in a boat. Each time the dog swam close enough to nip tail feathers, Donald flapped his wings enough to glide another 12 feet or so down the bay.

Though Donald and Daisy are inseparable, the only ducklings Daisy has hatched have been from two fertilized eggs brought in from outside and mixed with her own.

One of the babies was taken home by Jack Board of Dept. 031-0 and still is a favorite pet of his children.

The wind tunnel has its share of seagulls, too. They use the paved parking lot to drop clam shells from the air to break them and get their dinner!



DUCK DINNER—Popular mascots at Convair high-speed wind tunnel are fed by C. G. Anderson, compressor systems operator.

Adventurers Plan Lecture on Whale

A color movie and lecture on the California grey whale will be presented to CRA Adventurers by Dr. Raymond Gilmore, research associate in marine mammals at San Diego Natural History Museum.

The Dec. 18 program will be in the CRA Clubhouse, 7:30 p.m. A ham and turkey will be awarded as door prizes.



TASK FORCE—Convair division's fuselage task for DC-10 project calls for close liaison with McDonnell Douglas Corporation officials. Here, Jack Hurt, left, Convair DC-10 program manager, confers with MDC officials. From left, Hurt, Marchal Caldwell, engineering resident representative, effective Dec. 1; Wayne Goldie, resident Douglas Aircraft representative; D. C. Dillingham, MDC planning resident representative; Frank Labac, MDC interim engineering representative. On table is model of DC-10 fuselage section.

Horsemen Slate Christmas Parties

CRA horsemen will hold not one, but two parties during the Yule season, one for children and another for adults.

The kids party will be Dec. 13, 7 p.m. in the CRA Clubhouse. Entertainment, favors, refreshments, and possibly a visit from St. Nick himself will highlight the event. For reservations, call Shirley Berry at 277-7191.

Christmas, said Lorna Payne, chairman, is for adults too! They will meet at Campus Chuck Wagon Dec. 21 for their annual Yule party. Happy hour is set for 6 p.m., dinner at 7.

Yearly awards will be presented in all classes for past year performance. In addition, the annual "Pop Beam" award will go to the outstanding teen-age member of the club. Door prizes will be awarded.

Call Mrs. Payne at ext. 3721 KM or (home) 582-1845 by Dec. 14.



REAL "CRAWDADS"—Bob Nicholas of the CRA Delta Divers exhibits his award-winning lobster catch at recent "combination dive" at Cardiff.

Salvage Schedule

Next employes sales day at the Convair salvage yard, Lindbergh Field plant, will be Saturday, Dec. 7. Hours are from 8 a.m. until noon. Entrance is by badge. Children and pets are not allowed inside the yard.

Aero. Engineers Set Yule Party

Annual Christmas party of the Society of Aeronautical Weight Engineers will be held Friday night, Dec. 6, at the Top Shelf Restaurant, 9350 Fuerte Dr., La Mesa.

Cocktail hour is from 7 to 8 p.m., followed by dinner, a gift exchange and live music for dancing to the strains of the Top Shelf combo.

Discount Offered For Ice Hockey

Discount tickets for the ice hockey game between the San Diego Gulls and Vancouver Canucks on Sunday night, Dec. 8, 7 p.m., are being offered by the Management Club Boosters.

Regular $3.50 tickets are being sold for $2.50 and $3 ducats for $2. Tickets can be purchased from any Booster representative.

$3.50 Seats For $2.50 Offered For Show

"She Loves Me," a sophisticated holiday musical, will be the offering of Circle Arts Theater for its "Convair Night" presentation Thursday evening, Dec. 19.

All Convair employes can buy reserved $3.50 seats for $2.50. Tickets can be purchased at all employe services outlets.

Mgt. Club Will Hear Psychologist Speak

Ray Monsalvatge, a psychologist and internationally known lecturer, will discuss "Who Cares?", an analysis of "the fall of the USA and a few ideas on how to prevent it," tonight at a Convair Management Club dinner meeting in the Mission Bay Room of the Bahia Hotel.

Social hour begins at 5:30 p.m. with dinner at 6:45.

Monsalvatge, a former instructor for Birmingham-Southern College and University of Puerto Rico, has consulted with the emotionally disturbed, specialized in sales training and served 10 years on the staff of the National Management Association.

Toastmaster Club Plans Installation

New officers of Convair Toastmasters Club 3745 will be installed at a dinner meeting Jan. 9.

They are George Miyashiro, president; Murray Franke, educational vice-president; Ray Behlman, administrative vice-president; Floyd Glick, secretary; Bob Frederick, treasurer; Bill Alexander and Harvey Seibert, sergeants-at-arms.

The club is sponsored jointly by CRA and Convair Management Club.

"FUN PACKAGES" RATE OFFERED

"Fun nite packages" for Mickey Finn's are on sale for Convair employes at all CRA outlets for $10 each (a $5 saving). Included are two permanent membership cards, a straw hat ticket, a ticket for a stereo record album and four drink tickets.

Net Instruction Open to Families

Private, semi-private and small group tennis instruction is being offered Convair division employes and members of their families by net professional Tony Haber at the CRA courts at Kearny Mesa.

Instruction is available Mondays through Fridays from 11 a.m. to 3 p.m. Reservations can be made by contacting the Health Club office in the CRA Clubhouse at Kearny Mesa (ext. 1111), leaving name and telephone number or extension.

Both novice and advanced tennis instruction are offered.

Pistol Club Honors Shared by Three

Roland Schneider, Bill Worthington and Jim Halfacre took class honors in recent Convair Pistol Club competition. Next match will be Dec. 8.

Schneider topped the master class with a 288-15x. Warren Walker was second with a 287-3x. Worthington's 276-3x bested Dick Sutton's 266-3x in expert class, while Halfacre prevailed in the .38 caliber short national match with a 252.

Trailing Halfacre were Don O'Brien 244, Schneider 232 and Ernie Kampmann 226.

Bike Club Riders Plan 'Alpine Tour'

CRA Bicycle Club riders will take a 50-mile "Alpine tour" Dec. 14, leaving at 7:30 a.m. from Parkway Bowl in El Cajon.

The ride will take the group through Lakeside, Flinn Springs, Alpine, Japatul Valley, Dehesa and El Cajon. Phone Agostino Arcidiacono, ride leader, ext. 2467 LF or (home) 454-6329, for additional details.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111, Kearny Mesa. Deadline for next issue of GD/NEWS is Dec. 10. Call ext. 1071 LF or 3322 KM. All meetings are held in CRA Clubhouse unless otherwise noted.)

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ADVENTURERS — Meeting Dec. 18, 7:30 p.m., slide program.

BADMINTON—Play Mondays 7-10 p.m., Federal Bldg., Balboa Park.

BONAIR FLYERS — Meeting tomorrow, Dec. 5, 7:30 p.m.

BRIDGE — Duplicate bridge sessions each Friday, 7:30 p.m.

CAMERA CLUB — Meeting Dec. 15, 7:30 p.m., Photo Arts Bldg., Balboa Park.

CERAMICS—Meet each Tuesday and Thursday, 7-10 p.m.

CHESS—Play each Wednesday, 7 p.m.

CHORUS — Rehearsals 7:30 p.m., Mondays. Sing Dec. 11, Naval Hospital; Dec. 18, University Hospital; Dec. 20, Mercy Hospital.

COINEERS — Meeting Dec. 18, 7:30 p.m., Convair cafeteria, Lindbergh Field.

DELTA DIVERS — Christmas party Saturday, Dec. 14, 8 p.m., at Loren Batchman's.

FENCING—Workouts and instruction Friday, 7:30-10:30 p.m.; YWCA, 10th and C Sts.

FISHING CLUB — Christmas party, Tuesday, Dec. 17, Gillespie Field Clubhouse, movies, gift exchange and refreshments; meeting at 7 p.m.

GARDEN CLUB—Meeting tonight, 7:30 p.m. in Floral Bldg., Balboa Park.

GOLF—Carlton Oaks tourney, Dec. 14-15. Call LF ext. 511 for starting time.

HEALTH CLUB — Open 9:30 a.m. to 10 p.m., Monday through Friday; 10 a.m. to 5 p.m., Saturdays. Call ext. 1111 KM.

HI/FI MUSIC — Meeting Dec. 10, 7:30 p.m.

ICE SKATING — GD family skate nights Thursday, 6:15-7:45 p.m.; Mission Valley Ice Arena.

JUNIOR SCIENCE — Meeting and workshop third Friday each month, 7:30 p.m.

MINIATURE RAILROAD — Work sessions Saturdays and Sundays, CRA Missile Park.

MODEL HO RAILROAD—Work sessions each Tuesday, 7 p.m., CRA Missile Park.

PISTOL CLUB — Next shoot Dec. 8, 9:15 a.m., S. D. Police Pistol Range.

RADIO CLUB—Meets tomorrow, Dec. 5, 7:30 p.m.

RIDING CLUB—Meeting Dec. 11, 7:30 p.m. Childrens Christmas party, Dec. 13, 7:00 p.m. Adult Christmas party, Dec. 21, Campus Chuck Wagon, Happy hour 6 p.m., dinner 7 p.m.

RIFLE CLUB — Seniors shoot second and fourth Wednesday, 7 p.m. Juniors shoot first and third Saturdays, 9 a.m., Gillespie Field Range.

ROCKHOUNDS—Meeting Dec. 11, 7:30 p.m.

SCULPTURE — Workshop sessions each Monday, 7-10 p.m.

SPORTS CAR CLUB—Meeting Wednesday, Dec. 11, 7:30 p.m., Convair executive dining room, Lindbergh Field.

SQUARE DANCE CLUB—Dance 8-10 p.m. each Thursday.

STAMP CLUB — Meeting Thursday, Dec. 12, 7:30 p.m.

TOASTMASTERS CLUB — Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamics Toastmasters No. 457, Thursdays, 5:15 p.m.

TROPICAL FISH — Meeting, Monday, Dec. 9, 7:30 p.m.

WOMEN'S GOLF — Annual Yule party, today, Dec. 4, Hanalei Hotel, 7:30 p.m.



WATERFRONT STORAGE—Electric Boat division has added a much-needed 11,000 sq. ft. of temporary storage space on waterfront of crowded shipyard with erection of inflatable vinyl warehouse. Combination blower-heater provides constant 1¼ pound-per-square-inch pressure and 70 degree temperature.

Gymkhana Draws Record Turnout

Highlight of CRA Riding Club's last show of 1968 was the 196 entries in a gymkhana. A record turnout took part.

High point club winner in afternoon equitation was Sheri Special with Ken Smith runner-up.

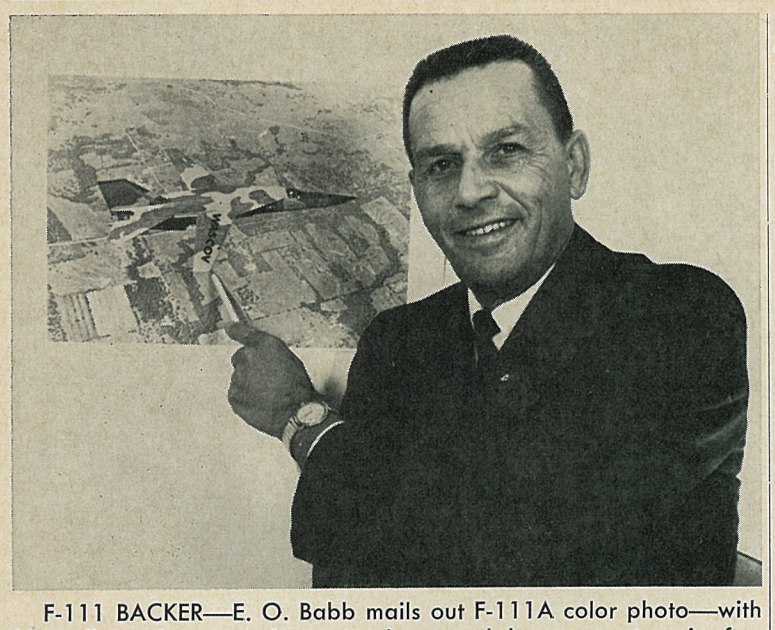
Steve Berry was show manager and Russ Wangler, a breeder of quarter horses, was judge.

Members enjoyed their annual "Branding Iron Breakfast" Nov. 16, utilizing the club's chuck wagon to cook ham, eggs, hash brown potatoes and campfire coffee at Missile Park.

Lorna Payne was chairman for the breakfast and cooks were Clyde Donahoo and Ed Kennelley.



REPEAT WIN — James Garcia of DCASPRO quality assurance division at Kearny Mesa won trophy for second consecutive year in recent Jessop's hole-in-one contest at Municipal course. He placed 10th.



F-111 BACKER—E. O. Babb mails out F-111A color photo—with his call number on wing — to interested ham operators in far-flung parts of world.

Telling the Story

Ham Operator's Broadcasts Extol Capabilities of F-111

E. O. Babb thinks the F-111 is the "most fantastic airplane ever built," and he tells the "world" about it.

He's able to do so because he's a veteran ham radio operator. He has told the F-111 story to hundreds of hams in the U. S. and overseas.

In addition, he sends color photos of the F-111 with his radio call number—WA 5-COV—printed on the wing to his more responsive "converts."

"It all started about three years ago," the Fort Worth division Dept. 178 assistant general foreman said. "As soon as another operator found I was from Fort Worth, he'd usually ask about the F-111.

"Many would ask questions like, 'Is it really safe?' or 'What's all this stuff I've been reading about it?'

"I tell them I've worked with all types of aircraft for 16 years, and this is the most fantastic airplane I've ever seen."

Ham operators customarily send postcards of confirmation to other operators after a contact. Instead, Babb rushes an F-111 photo.

"Other operators usually hang the photo in their sending room," Babb said. "I've received a number of repeat calls from operators who want to know how the program is coming along."

Instead of giving specific performance information he might tell a contact :"It can fly slower than a T-33, or it can walk away from an F-106." They usually get the picture.

To a query such as "Is the plane really safe?" Babb compares the F-111's safety record—favorably, of course—with other Century series fighters. He also extols the plane's unique escape module and reminds that it's batting 1,000."

Babb has made contacts in most of the states and in several foreign countries. He's been an operator since 1937 and now uses a single sideband and AM transmission.

He started to work at Convair division in 1950 and saw service at Holloman AFB, Calif. and Mangum, Okla. before transferring to Fort Worth.

Babb speaks authoritatively on the subject of aircraft, since he has worked with the 880, F-102, F-106 and most other Century series fighters at one time or another.

"The F-111," he says, "is far and away the best and most versatile airplane ever built."

Nuclear Sub, Ammunition Ship Successfully Finish Sea Trials

The nuclear submarine USS Sunfish (SSN 649) and the ammunition ship USS Butte (AE-27) each moved closer to delivery dates by successfully completing sea trials.

Sunfish completed her initial sea trials Nov. 13, three days after leaving the Quincy division in the midst of a powerful Nor'east storm.

Butte went to sea Nov. 14, delayed two days by a third storm, for pre-acceptance trials, last major step before delivery to the Navy. She returned to the shipyard early afternoon, Nov. 15, just over 30 hours after departing.

After completing trials, Sunfish continued on to the U. S. Naval Submarine Base, New London, Conn., where she will undergo further testing and training before returning to Quincy.

VAdm. H. G. Rickover, USN, acting for the U. S. Atomic Energy Commission and the U. S. Navy, was in charge of the Sunfish trials.

Cdr. Richard L. Thompson, USN, commanding officer of SSN 649, and his crew of 12 officers and 95 enlisted men earned the praise of Adm. Rickover who also expressed satisfaction with the overall conduct of the trials.

USS Sunfish is expected to be delivered to the Navy near the start of the New Year.

USS Butte is now berthed at Quincy's Pier 1 undergoing final preparations for delivery to the Navy later this year.

She had left the shipyard at 2:30 p.m., Nov. 12 and returned the following day.

During her 26 hours in Massachusetts Bay, Butte's performance and that of her equipment was evaluated by the Navy's 24-member Inspection and Survey team, headed by RAdm. J. D. Bulkeley, USN.

John Graham Named To EIA Committee

John J. Graham, General Dynamics group vice president, electronics, has been named to a committee of the Electronic Industries Association.

The committee, Telecommunications Policy Group, will serve in an advisory capacity to the association's board of directors and its executive officers in the field of telecommunications.

Fort Ord Exhibit Features Redeye

The shoulder-fired Redeye air defense guided missile being produced at Pomona division for the U. S. Army and Marine Corps was featured last month in an exhibit at Fort Ord, Calif.

Redeye was on display for the American Helicopter Society's National Symposium staged at Ft. Ord Nov. 21-22.

Doing the Impossible

'Factories' in Space Seen as Opening Vast New World of Manufacturing

Dr. Wolfgang H. Steurer, a Convair division engineering staff specialist, gave one of eight major technical presentations at a recent conference on "Manufacturing Technology Unique to Zero-Gravity Environment" at NASA's Marshall Space Flight Center in Huntsville, Ala.

Numerous types of possible orbital manufacturing processes were outlined by Steurer, including promising concepts for unique structural materials and components that could be improved through zero-g manufacturing or can not be produced on earth.

Jack L. Bowers, Convair general manager, was among 75 industry, NASA and military officials attending the conference at the invitation of Dr. Wernher von Braun.

Zero-gravity manufacturing offers the general public the greatest potential for important benefits from the nation's space program, according to Steurer.

"Composite materials that are difficult or impossible to produce in the earth's 'ocean of gravity' can be blended with ease in space," he pointed out.

"Forming of complex structures in zero-g through application of motion, mass forces, electrical fields or other techniques and drawing of thin films will create an entire new 'state of the art' in manufacturing and many other technology fields," he said.

Since liquid metals form a perfect sphere in milliseconds in the absence of gravity, hollow balls for ball bearings formed in such an environment, as an example, would have tolerances measured in one hundred millionths of a centimeter and could lengthen the life of engine bearings by a factor of eight.

Steurer said composite castings and pressurized microfoams are among many types of products that can be produced in zero-g space "factories." Three-dimensional forming from liquids would be possible through use of "electric tooling," which would eliminate any physical contact between tooling and material. Other products difficult to produce on earth could be built-up in space from molten mist or vapors.

Crystalline materials such as structural metals or semiconductors can be produced with heretofore unattainable perfection due to absence of containers or thermal currents.

Convair's studies also have taken into consideration various "effectiveness criteria," including development and product costs.

Convair manufacturing personnel have been working on orbital manufacturing process plans for several years, based on concepts originated by Hans F. Wuenscher, assistant director for advanced projects at NASA-Marshall.

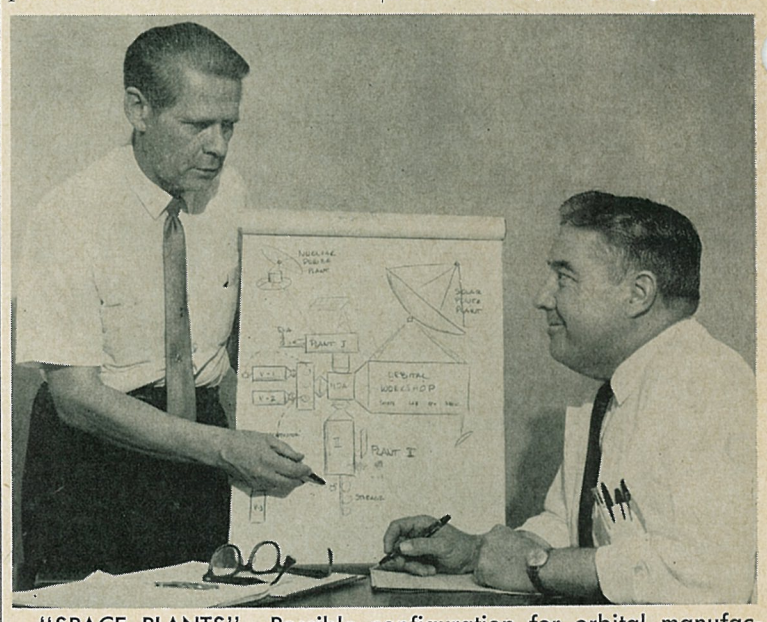
Intensive conceptual studies have been undertaken since early in 1967 under the direction of C. E. Roye, supervisor of manufacturing development.

Steurer and Roye earlier this year compiled and published a proprietary-information document detailing 26 different potential in-space zero-gravity manufacturing techniques.

Each concept is outlined along with information on specific processes that could be employed, zero-g effects expected, potential products that would lend themselves to the method and pertinent research and development problems.

Steurer, who was in charge of materials research and development for the German V-2 ballistic missile program during World War II, was chief of the materials laboratory for the U. S. Army Guided Missile Development Division and chief of materials research for the Army Ordnance Missile Command from 1945 to 1958.

He has been with General Dynamics since 1958, at Convair and Fort Worth divisions. He holds both his master's and doctoral degrees in engineering from the University of Stuttgart.



"SPACE PLANTS"—Possible configuration for orbital manufacturing plants is discussed by Dr. W. H. Steurer, left, Convair engineering staff specialist, and C. E. Roye, supervisor of manufacturing development. Steurer gave technical presentation at recent NASA Marshall Space Flight Center conference.

Mfg. Chamber Slated For Apollo Flight

A space manufacturing process chamber with an electron-beam heat source is being prepared by NASA-Marshall for experimental use on the second Apollo Applications (AAP) flight in 1972 or 1973. A larger chamber will be integrated into AAP flight 2 backup-mission hardware.

NASA officials also have announced plans to develop a manufacturing module for docking with an earth-orbiting space station in the mid-1970s. It will contain working room for at least two astronauts and materials and manufacturing process chambers for production of small quantities of specialized items that can be best produced under zero-g. Products will be returned to earth for evaluation or use in specialized industrial, medical or governmental application.

Quincy Division Backlog Raised to Nine Keels

The Quincy division's backlog of keels to lay has been raised to nine, representing more than one-quarter billion dollars in contracts value, with the addition early last month of three cargo ships for the Lykes Bros. Steamship Co.

The newest contract award keeps the shipyard's work horizon at the desired three years distance and brings to 17 the total number of ships scheduled for delivery between now and late 1971.

Construction of each Lykes ship is expected to start at the Quincy division in 1970 with the three deliveries scheduled to occur at intervals of approximately three months in 1971.

The Lykes work will be performed with no significant change in the present work force level of nearly 8,500, General Manager Robert V. Laney has said.

In the meantime, the Quincy division will continue competing for the Navy's DX program as well as pursuing additional U.S. Navy and commercial contracts to add to its backlog.

Closest in the future—within weeks—are the delivery of the ammunition ship USS Butte and the nuclear attack submarine USS Sunfish to the Navy.

"Four" looms as the shipyard's magic number for 1969 as four ships are scheduled for delivery during the year, another four will be christened and construction on four more will be started.

The New Year will see a continuation of the shipyard's modernization and upgrading plans that already have seen more than $18 million spent for new and improved facilities since General Dynamics came to Quincy in 1964.

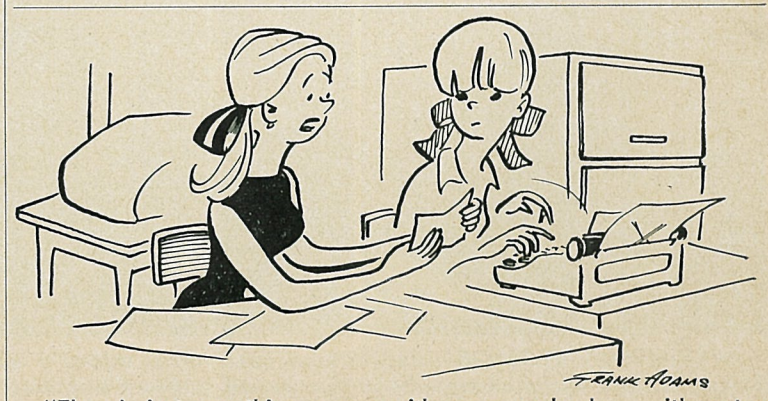
Modernization in 1969 will be concentrated in three areas: Replacement of worn or outmoded equipment; improving reliability of shipyard utilities; construction of an additional pre-outfitting area, together with improved materials handling support at the new area and shipbuilding positions.

The new pre-outfitting area will be constructed under cover, adjacent to the shot blast and paint spray buildings. It will include support shops and modern materials handling equipment.

New conveyors are planned for Warehouses 4, 5 and 7. Portable conveyors and elevators will be available for moving equipment and materials from runways and ground locations to ships building in the basins or on ways at Slip 12. Repairs will be made to Piers 2 and 4, the boiler house and fabrication building.

Improved lighting will brighten the turret, pipe and machine shops and also the main office and administration buildings.

The healthy business backlog, combined with the continuing modernization and busy shipbuilding schedule, appear to make 1969 and the early 1970s as General Dynamics' busiest yet at Quincy.



"There's just one thing wrong with my pay check . . . it's got a decimal point in it!"

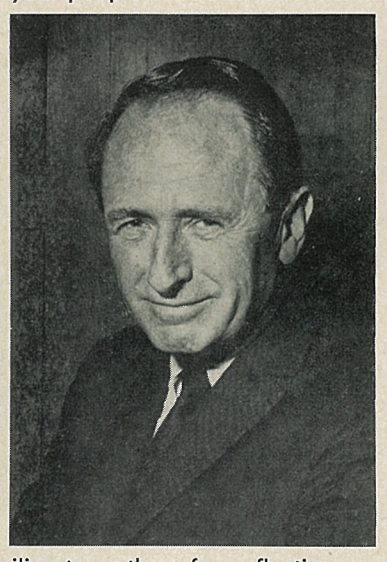
SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 21, No. 26 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, December 18, 1968

Peace Hope Expressed In Lewis Message

For the first time in several years, we enter a Christmas season with more than just a hope of peace on earth. This year people sat down across a table and made the first moves toward peace in Viet Nam. It will not be an easy peace to make. But we join with the world in the sincere hope that stability will come to our people, and that our own sons and husbands will be spared to return to us.



With peace would come a renewed emphasis on the application of man's genius for human betterment, sociological and economic, in which General Dynamics people have the ability and will to make a considerable contribution.

Christmas is a time for personal renewal, for families to gather, for reflection on the past and a look to the future. We can reflect on 1968 as a year in which men of different color, cultures and ideologies sat down across many tables to seek solutions.

I join with you in the hope that these men find the wisdom to achieve those solutions.

To all of you and your families, I wish a very joyous Christmas and a happy and peaceful New Year.

Roger Lewis
President, General Dynamics Corporation

Ten Years Ago Today Atlas 10B Broadcast Christmas Message

Ten years ago today (Dec. 18, 1958), Convair's Atlas 10B went into orbit around the earth and captured the world's admiration and respect with the broadcast of a Christmas message from President Eisenhower through an on-board tape recorder.

Project SCORE, as the spectacular 16th Atlas launch was called — for Signal Communications Orbit Relay Equipment — provided first test of a communications system in space, gave proof of Atlas' capability to boost Project Mercury capsules and proved that a space launch could be conducted under the tightest of security.

So secret were plans for the launch that it was thought only 88 men in the country—including 19 from Convair Astronautics—knew of the mission. (An official Air Force compilation later showed more than 90).

Even Curtis A. Johnston, Atlas 10B launch conductor and now deputy program manager for Atlas E-F programs, did not know of the launch purpose—although he later admitted having had an inkling something unusual might be in the works.

Roy Johnson, then director of the Advanced Research Projects Agency, suggested Project SCORE in July, 1958, and go-ahead was given with President Eisenhower's express permission.

The project, following Russia's launch of three Sputniks, had as its key objective providing a satellite relay of voice and radio signals between two earth stations.

Deane Davis, then Atlas project engineer and now Centaur program manager, Col. Asa B. Gibbs of the Air Force's Atlas project office, and John Beil of Space Technology Labs (now TRW) worked out the details.

Plans were made and carried

(Continued on Page 2)

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Some questions, as well as answers, have been shortened to meet space requirements. In most cases, replies to individuals by mail are in considerably more detail.)

Q—A GD/NEWS story on automatic drafting set me to thinking. Why not use the machine to reproduce drawings only with the details necessary for each operation? For example, milling—give views and dimensions needed only by the milling machinist.

A—To thoroughly analyze this question, a value control team study has been initiated, scheduled for completion by Feb. 1, 1969. The use of incremental or operation oriented planning drawings has been under discussion for some time. However, the use of the

(Continued on Page 2)

Atlas-Centaur Shot Perfect, 'Couldn't Have Been Better'

Convair division's Atlas-Centaur 16 performed to perfection Dec. 7 when it sent NASA's Orbiting Astronomical Observatory-2 into orbit to give astronomers their first sustained look at the universe from beyond the distortion of earth's atmosphere.

OAO-2, carrying 11 telescopes and weighing 4,400 pounds, was the heaviest payload launched by Atlas-Centaur and the United States' heaviest and most automated unmanned satellite.

The Atlas-Centaur, in its single-burn direct-ascent mission, injected the observatory into circular orbit with an apogee of 417.4 nautical miles and a perigee of 416.6 nautical miles—total variance of less than a mile from the 417 nautical mile perfect circle target.

"The entire operation was perfect," Ed Lindgren, AC-16 project engineer, said. "We couldn't have done better."

Deane Davis, Centaur program manager, said Dr. Homer Newell, NASA associate director, and Dr. John F. Clark, Goddard Space Flight Center director, were extremely gratified and complimented Convair on accuracy of the launch.

"Dr. Newell said, in his opinion, this step forward with the OAO is equal to man's discovery of the telescope," Davis said. "Dr. Clark called our launch the most professional launch operation he'd ever seen."

Congratulatory telephone messages also were received last week from officials of the Smithsonian Astrophysical Observatory and the University of Wisconsin, who provided OAO experiments.

Dan Sarokon conducted the launch from Complex 36-B at the Eastern Test Range with Don Merritt, Jim Sylvester, John Johnson, John Kechele and Gene Hart assisting. Launch was precisely at opening of the launch "window."

Officials present included Grant Hansen, vice president-launch vehicle programs; Andrew Kalitinsky, LVP engineering director; Davis, and Richard Keehn, Atlas program manager.

W. J. Hammond, site support group engineer, said about 65 LVP personnel, including representatives from all design and technical groups, followed the launch countdown via direct line from the Cape in the Bldg. 26 briefing room at Kearny Mesa.

"There were no difficulties of any kind during the countdown and the flight was the best we've ever had," Hammond said.

First OAO astronomical experiments were activated at 4:45 a.m. Dec. 11, with a signal from Watertown, Tenn., for a study of Iota Carina, a 2½ billion year old "teen-age" star 86 light years from earth.

OAO-2 is 10 feet tall and 21 feet wide with its solar arrays, containing more than 109,000 solar cells for power generation,

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Jonash Sends Congratulations

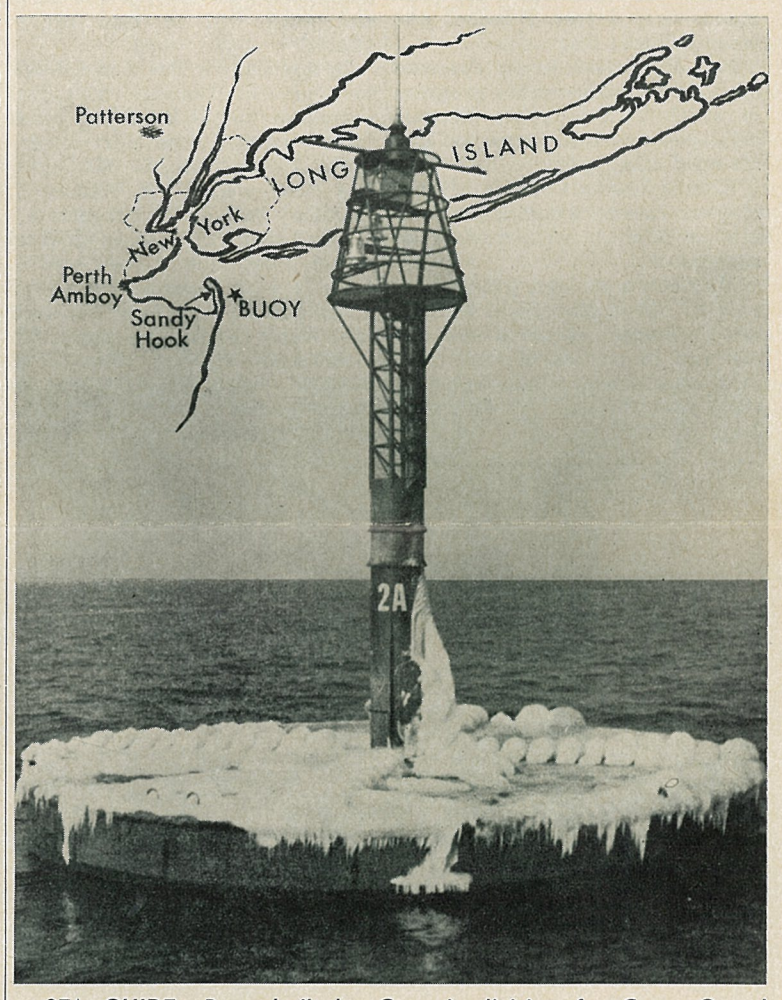
Grant L. Hansen, Convair vice president-launch vehicle programs, has received the following telegram from Edmund R. Jonash, chief, NASA launch vehicles division:

"Congratulations on the successful launch of . . . OAO-2. As you know, the successful execution of the OAO program is extremely important to NASA. If the spacecraft continues to work successfully, the OAO will provide scientists and astronomers with a new era of astronomy, likened to Galileo's first look through a telescope.

"We can all be very proud that our Atlas-Centaur got this program off to such an excellent start. The successful launch of AC-16 was most demanding because: it was so different from previously launched Atlas Centaurs; it followed on the footsteps of the AC-17 failure; and it was constrained by the upcoming Mariner launches.

"The responsiveness and cooperation of the Convair ETR and San Diego personnel during the trying days before the launch were particularly appreciated . . .

"We would appreciate you extending—on our behalf—congratulations to Convair personnel both at San Diego and at ETR and to all your subcontractors for a job well done under most trying circumstances."



SEA GUIDE—Buoy built by Convair division for Coast Guard as major navigational sea aid has received excellent evaluation ratings after completing its first year of operation off Sandy Hook outside New York harbor.

Coast Guard Seeking More Navigation Buoys

A large sea buoy built by Convair division as a major navigational aid has proved so effective that the Coast Guard has invited General Dynamics, among other firms, to submit technical proposals for the design and construction of four additional buoys.

Convair's prototype Mark II buoy recently completed its first year of operation with excellent evaluation ratings. It is moored approximately six miles east of Sandy Hook in New York Harbor near the station previously occupied by the Scotland Lightship.

Objective of the operation was to evaluate capability of the buoy as a major aid to navigation in a role previously limited to lightships and offshore structures.

The buoy project stemmed from a Coast Guard decision to explore the possibility that a large, unmanned buoy might provide the required aid at even lower cost than unmanned offshore structures.

Evaluation showed that the buoy system and monitoring shore station have operated with high reliability since placed in operation in July of 1967.

There has been no operational interruption of the monitoring-command link and the light beacon and fog signal have operated with a 100 per cent reliability record. Faults in individual units of supporting equipment did occur, but these were automatically bypassed by redundant circuits installed for that purpose.

(Continued on Page 4)

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Vessels 'Home' On CG Buoy

The navigational aid-type buoy which Convair built for the Coast Guard assists ships approaching New York Harbor in a number of ways, both at day and night. These aids include beacon lights, fog signal, radio beacon, radar target and daymark.

The buoy essentially is a marker, its precise location being charted on maps carried by all major domestic and foreign ves-

(Continued on Page 4)

Ten Years Ago Today Atlas 10B Broadcast Christmas Message

(Continued from Page 1)
out in a manner that would draw admiration from today's James Bond fans—while most personnel connected with the launch thought it was to be a long-range ICBM test flight.

The Atlas was stripped of as much instrumentation as possible, missions and trajectories were switched several times to generate needed guidance equations and payloads was installed.

Changes were made to elimnate sustainer engine cutoff from guidance—and a false cutoff signal generated in the blockhouse during pre-launch test countdown.

Most of the engineers and technicians connected with the launch went home afterward without knowing they had sent the Atlas into orbit.

Davis concedes that many of the stories circulated about his and other individuals' actions that helped make the mission successful have never been admitted by the participants. He's sure of one thing — it "could never happen again."

President Eisenhower was given word on success of the orbital launch after completion of the first orbit — and made the announcement at a state dinner.

The Christmas message, broadcast on a standard frequency, was picked up and broadcast by radio stations around the world. It said:

"This is the President of the United States speaking.

"Through the marvels of scientific advances, my voice is coming to you from a satellite traveling in outer space.

"My message is a simple one. Through this unique means, I convey to you and all mankind America's wish for peace on earth and good will to men everywhere."

In addition to Davis and Johnson, present Convair personnel who were "in the know" on plans for the launch were Mort Rosenbaum, Frank Dore, R. M. Leger, J. J. Anderson, W. W. Withee, T. L. Maloy and Jerry Greenstein. Maloy had a key role as chief of launch operations at the Cape.

Those with advance knowledge of the launch plan later received certificates granting them life membership in the "Club 88 of SCORE"—with SCORE listed as standing for "Society for the correction of Russian excesses."

Two Convair Vets Retire

Homer E. Brisbin, an assembler in Dept. 045, is almost twice the size of Dept. 019's Johnny Maroldo, but they had a lot in common at a recent function. It was their retirement day and fellow workers gathered to honor them at a farewell party in LF's Bldg. 2.

Those attending had little trouble spotting Brisbin, 65, who stands 6 feet 2 inches and weighs 260 lbs. However, a platform was needed for Maroldo, 62, who stands only 4 feet, 2 inches and weighs but 71 lbs.

Ben McMicken, group foreman of Dept. 045, emceed the program in which both longtime Convair employes received cameras and assorted other gifts.

Brisbin leaves Convair after a 29-year career which has found him working a wide variety of assignments.

Maroldo, a midget, joined Convair at old Vultee Field in 1947 after a lengthy career with a circus and in movies. He appeared in a number of films, including the classic "Wizard of Oz" with Judy Garland.

Log Book Entries

Awards

CONVAIR

Employe Suggestion Awards approved for week ending Dec. 6.

Dept. 501, B. Behrend, $15; 027, L. V. Boles, F. J. Serio, $93.45 each (joint ward); 001, J. A. Boucher, K. Phillips, $10 each (joint award); 250, G. S. Brooks, $15; 146, I. C. Brugger, $537; 045, A. Candelaria, $15; 579, M. D. Chlarson, $142.80; 027, R. E. Cloud, $26; 131, D. V. Corrao, $15; 027, A. I. Cox, $20; 985, H. E. Crabtree, $15; 170, E. L. Curtis, $49.60; 031, N. E. Eldridge, $15; 250, W. A. Engelke, $25; 019, H. C. Ford, $15; 840, M. F. Gonzales, J. E. Hoy, $1,501.55 each (joint award); 144, E. B. Grainger Jr., $100; 835, H. F. Hampy, $41.70; 015, G. S. Hasley, $136.70; 001, E. H. Hussong, $28.60; 780, W. E. Hustead, E. L. Thorpe, $12.50 each (joint award); 031, D. W. Ingram, $37; 027, R. W. Irmer, $99.70; 780, G. L. Jones, $15; 015, J. D. Jones, $220.90.

Dept. 401, E. Leep, $191.20 (two awards); 015, M. E. Long, $30 (two awards); 130, J. Maul, $15; J. F. McConnell, $43.60 (two awards); 015, J. K. McDonough, $17.90; 143, P. H. Milne, $18.80; 016, A. V. Minor, $77.70; 780, J. R. Mitchem, M. B. Murrah, $46.50 each (joint award); 836, F. Newton, $38.10; 027, F. Patruno, $29.90; 578, K. P. Ponchetti, $151.40; 015, W. L. Porter, $15; 250, J. S. Poschman, $15; 019, J. R. Price, $15; 401, N. E. Rodgers, $98.25; 149, R. T. Scott, $15; 731, R. L. Snider, $15; 193, A. Talmadge, $15; J. F. Taylor, $15; 401, R. A. Taylor, $98.25; 144, R. L. Wagner, $52.50; 045, W. Wantuck, $15.

Service Emblems

CONVAIR

Service emblems due between Dec. 1 and Dec. 20.

Thirty-year: Dept. 001, C. V. Beeson; 059, C. E. Keptner; 115, W. W. Withee; 400, R. W. Talmage; 533, C. Kerr Jr.

Twenty-five-year: Dept. 140, Elizabeth W. Wright; 143, F. A. Baugh; 149, L. H. Cooke, E. F. Whalen, E. L. Zimmerman; 300, R. S. Lindstrom; 516, M. T. Irwin Jr.; 544 H. Weimer; 565, Rose E. Werner; 756, G. F. Marcello; 761, J. E. Bryans Jr.; 840, M. Duran.

Twenty-year: Dept. 027, W. R. Grosse; 059, D. C. Constantino; 149, C. W. Owen; 170, Dorothy S. Dust; 400, A. Rohr; 519, O. R. Sorensen; 544, J. J. Murphy; 565, J. J. Wokuluk; 831, C. D. Taylor.

Fifteen-year: Dept. 027, J. B. Franklin; 131, Florence M. Morris; 142, I. L. LeDuc; 193, Jacqueline B. Roisman; 250, H. Reina; 452, G. L. Criger; 511, E. A. Roakes; 532, R. W. Casebolt; 565, Virginia C. Kahr, E. L. Sisler; 572, G. E. Sawyer; 583, R. R. Lanflisi; 597, R. V. Shields; 756, M. J. Hubbard; 836, E. E. Bowers; 966, Caroline C. Dickinson.

Ten-year: Dept. 002, Beverly B. Blackwell; 027, J. B. Simon III; 059, D. E. Kolesar, D. E. McNeil; 101, R. B. Williams; 130, D. M. Ahrensberg; J. D. Kennedy; 144, R. J. Kolek; 300, G. P. Delp; 454, R. A. Cook, M. Nash; 511, R. E. Bender; 524, Betty E. Hawn; 553, E. L. Wolfensberger; 588, F. L. Dohm; 595, G. Wang; 731, R. F. Stygar; 780, H. Koffren, V. W. Kindred Jr.; 832, Verna F. Robison; 835, H. A. Thrower; 079, J. R. Counselor, R. E. Loveday, B. W. Shook; 988, F. L. Strickling.

ELECTRONICS

Fifteen-year: Dept. 619, M. M. Cox.

Ten-year: Dept. 105, A. M. Isbell, 776, R. F. Schillinger.

Invention Disclosures

CONVAIR

FRANKOWSKI—J., Dept. 572. Light Energy Welding.

HUJSAK—E. J., Dept. 952. Sandwich Structure for Propellant Holding in Zero G. Two Speed Clutch for Small Engines. (Two inventions.)

KETCHUM—W. J., E. J. HUJSAK, Dept. 952. Monopropellant Reactor.

KING—C. D., Dept. 592. Atmosphere Pollutant Removal System for Conditioning Occupied Enclosures.

MAYBERRY—D. W., Dept. 491. Pre-Stressed Additive for Woven Materials to Control Strength and Flexural Requirements.

MONTALBANO—R. W., Dept. 027. Radiator Cap Remover.

PHILLIPS—P. M., Dept. 015. Poly Safe Flotation Device.

SHAFER—W. A., Dept. 592. Field Effect Monitor Charged Plate Sensors.

Rider-Driver

CONVAIR

RIDE WANTED—From Meadowbrook Park, Santee to Lindbergh Field Plant, 7:00 a.m. to 3:30 p.m. shift. Call Ernest Miller, 448-2577.

RIDE OFFERED—From Alford St., Lemon Grove to Lindbergh Field plant, 7 a.m. to 3:30 p.m. shift. Phone A. L. Fuller, ext. 1294 or (home) 469-0480.

RIDE WANTED—From Lake Murray area, near Navajo Road, to Lindbergh Field plant, 3:30 p.m. to midnight shift. Phone Mae Conner, ext. 1920 or (home) 460-6007.

Salvage Schedule

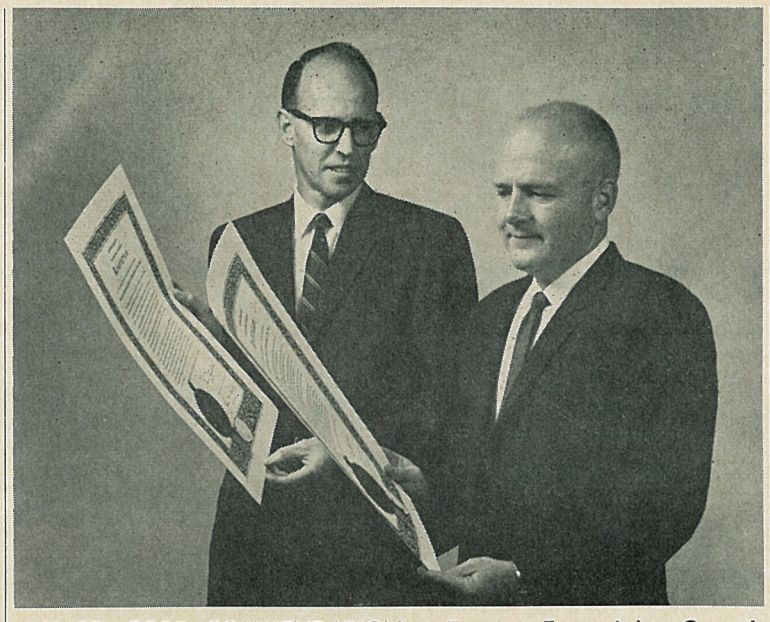
Next employes sales day at the Convair salvage yard, Lindbergh Field plant, will be Saturday, Jan. 4. Hours are from 8 a.m. until noon. Entrance is by badge. Children and pets are not allowed inside the yard.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N. Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.



HARD CORE COMMENDATION — Eugene Fox, right, Convair manager of personnel, and Jack Croft, chief of educational services, look over copies of California Legislature resolution in which they were commended for securing employment and providing training for hard core unemployed in San Diego area.

Fox and Croft Cited For Work In Aiding Hard Core Jobless

Eugene Fox, manager of personnel, and Jack Croft, chief of educational services, have been commended in a California Legislature Assembly Rules Committee resolution for their efforts in obtaining employment and providing training for hard core unemployed in the San Diego area.

Copies of the resolution for the two, and for others cited for their work in the National Alliance of Businessmen's JOBS (Job Opportunities in the Business Sector) program, were presented by Assemblyman F. James Bear, sponsor of the resolution.

The resolution states that "if problems of the poor and hard core unemployed are ever solved, it will be because interested businessmen have devoted time, money and manpower, as is now being done in San Diego."

Fox, as a volunteer in the NAB-sponsored program, worked with five local industrial, electronic and retail sales firms to secure employment of 87 hard core unemployed adults and summer employment for 58 disadvantaged youths.

Croft established a comprehensive 21-week Convair training program in which 50 hard core unemployed adults are being employed and given classroom and on-the-job training.

The NAB group, asked to volunteer their services by Hugh Woods, local NAB director, last April established a goal of securing employment and training for 1,000 hard core unemployed adults and 1,600 summer youth job placements.

Fox said 913 adults have been given full-time permanent employment and 1,643 youths provided with summer employment as a result. A new target has been established for placement of 2,000 hard core unemployed adults by June 30, 1969.

Matinee Features Finian's Rainbow

The Programs Committee of Convair's Management Club has arranged for a special matinee showing of "Finian's Rainbow" for division employes and members of their families.

It will be held Saturday morning, Jan. 4, 9 a.m., at the Cinerama Theatre on University Avenue near College Avenue. Tickets, priced at one dollar apiece, can be obtained from Management Club Boosters.

The musical stars Fred Astaire, Petula Clark and Tommy Steele.

Questions and Answers

Mail questions or comments to "Q and A" zone 100-01. All will be answered by mail to home address. Identities will be absolutely protected.

(Continued from Page 1)
automatic drafting machine is a new aspect that had not previously been considered and will be included in the study.

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Q—Timekeeping insists that flat-salaried time cards be signed in ink and the hours filled in by pencil, with no erasures. What's the logic in this?

A—Pencil is permitted for signatures on all time cards and pen is optional. Half of all time cards presently are signed in pencil.

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Q—I believe it would be helpful to change the procedure for employes who forget badges. Instead of having a supervisor personally come to the gate and identify the individual, couldn't guards obtain a physical description by phone?

A—The problem usually occurs at times of heavy gate traffic when the guard is busy checking identifications. Obtaining physical descriptions would take more time than he can afford to take from his regular duties.

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Q—In order to obtain a desk at the salvage yard, one must get in line early and there is no assurance of getting one, because once inside a person can claim all the desks in sight. This actually happened Nov. 9 when a truck loaded up all the desks available while the rest of us stood helpless. Why not limit the number any one person can buy?

A—On Nov. 9 there were 15 desks sold to eight different customers. Not long ago there were more desks available for sale than buyers. Limits are placed on individual purchases when considerable demand is expected. Future desk sales will be limited two to a customer.

Division Plans Continuation of JOBS Training

Results of a Convair program for training 50 individuals previously considered "hard core unemployed" have been "very rewarding," Eugene Fox, manager of personnel, reported.

The trainees were divided into four classes for five-week classroom sessions at periodic intervals from July through mid-November, followed by 16 weeks of on-the-job training.

"Results of this program have been excellent and we are planning contractual provisions for a new contract with the Department of Labor early in 1969 to hire and train an additional 100," Fox said.

Under the JOBS (Job Opportunities in the Business Sector) program, firms receive partial reimbursements for training costs.

Of the employes hired for training, 77 per cent were Negro, 19 per cent Mexican-American, two per cent Caucasian and two per cent American Indian.

Many had been unemployed for 18 months or more before joining the division.

Fox said attendance for classroom training was "outstanding" —with absenteeism being well below normal.

"In several cases, the attitude and desire of the employe was such that they were transferred from assembler training to tool manufacturing training, a much higher classification than originally contemplated," he said.

Fox said the division, as a result of success of the first training program, considers the hard core unemployed as "a very good source" for filling entry-level jobs.

"Employment opportunities for such personnel will be expanded as rapidly as business conditions permit," he said.

The training program is a part of the division's over all Plans for Progress efforts which includes extracurricular contributions of a number of key personnel.

Jack L. Bowers, Convair general manager, is a member of the executive committee of the Urban Coalition and the director of the San Diego Management Council for merit employment. Fox is a director of the Urban League.

W. J. Dawsey, a Convair industrial engineer, has been placed on a one-year special NAB assignment by the division as manager of recruitment and job placement for the JOBS program in San Diego County.

Atlas-Centaur Shot Perfect

(Continued from Page 1)
extended. It contains 328,000 separate parts, almost three times as many as each of the Surveyors sent to the moon by Atlas-Centaur. Orbital period is 100 minutes.

The Smithsonian celescope (celestial telescope) with four TV cameras will map about 50,000 stars in six months—at a rate of up to 700 daily—to give astronomers their first detailed ultraviolet stellar map.

The University of Wisconsin experiment package, composed of seven photometric systems, will study selected stars—an average of 1 per orbit—in detail. If the OAO operates six months, more than 1,000 may be studied in detail for extended periods.

First ultraviolet information on instellar gas (dust) in the Orion Nebula also may be obtained.

OAO-2 is the second in a series of four such observatories planned. OAO-1 was launched successfully by an Atlas-Agena in 1966 but the spacecraft failed due to a malfunction in its power supply. The next two OAOs are scheduled for launch by Atlas-Centaur late in 1969 and late in 1970.

Combat Pilots Praise Performance of F-111 in Viet Nam Air Strikes

F-111s hit "every target we went after" during 1,422 hours of flight—including 55 combat missions—into North Viet Nam and Laos.

"Missions lasted from 12 to 2 hours and were all flown within 200 feet of the terrain," said Lt. Col. Benjamin C. Murph, F-111 aircraft commander. "All missions were flown at night and most of them in 'heavy weather.'"

Colonel Murph was quoted in an exclusive interview appearing in the Nov. 26 issue of Aerospace Daily.

The F-111's reliability and maintainability in combat were also praised by Lt. Col. Emmet Everest, maintenance officer, and



COMBAT VETS — Col. B. C. Murph, right, commander of Detachment I, 428th Tactical Fighter Squadron, flew combat missions in Viet Nam as aircraft commander with Capt. Fred de Jong, pilot. Both have praised aircraft's performance.

senior M/Sgt. Howard Anderson, line chief of Detachment I, 428th Tactical Fighter Squadron, which was deployed to Takhli Royal Thai Air Force Base last March.

"Before the F-111," Colonel Murph was quoted as saying, "we had no way of hitting a protected target at night in the weather—now we have.

"We hit every target we went after, and they didn't know we were there until the bombs hit them. By the time they even started shooting we were on our way out. The gun fire always was behind us."

Colonel Murph confirmed an earlier report that the North Vietnamese ground observer corps was so effective that men flying F-4Cs "usually found ground defenses waiting for them."

Colonel Murph said the F-111's terrain-following radar and navigation equipment enabled (F-111) fliers to plan courses where "neither ground observers nor radar could detect them going in to targets."

"We went over there," Colonel Murph said, "to test a highspeed, long-range, low-level delivery system in the conventional war environment. This is the only mission I was concerned with and for my money we've got a hell of a weapon system. . . It was darned nice to know we could get up high and out at Mach 2 if we had to."

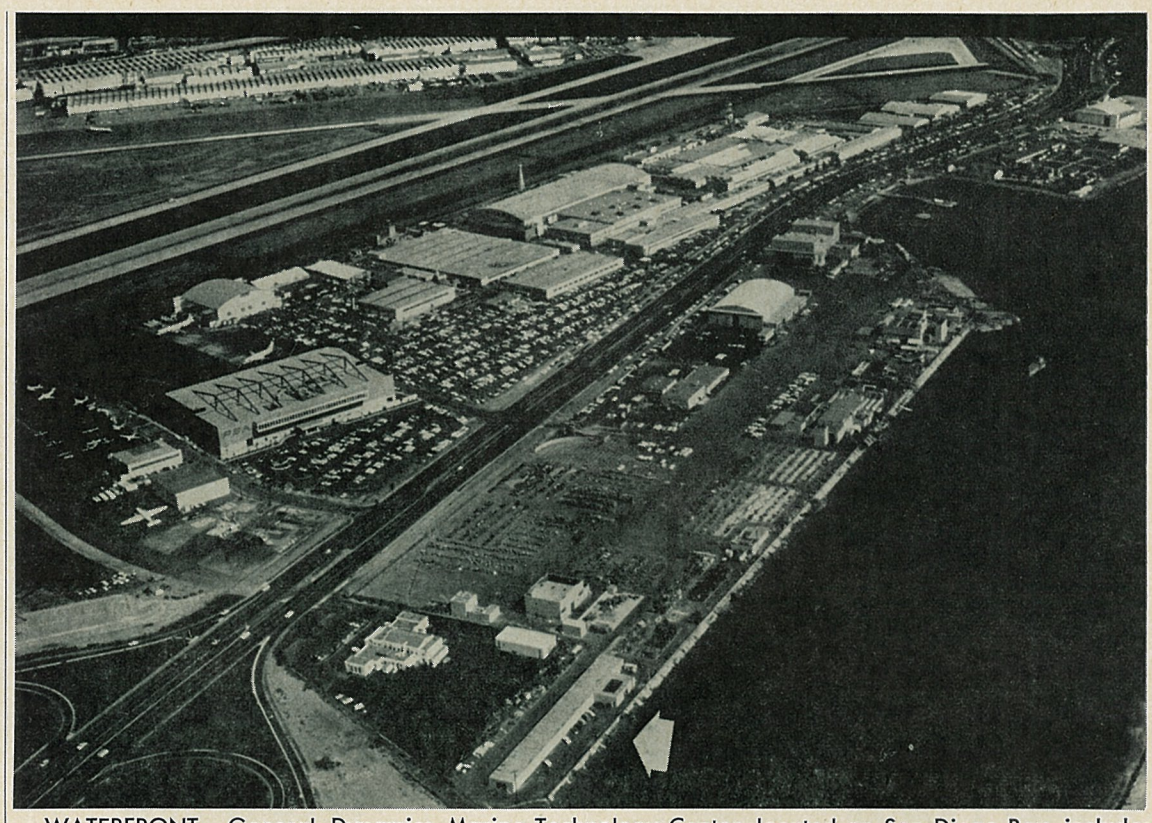
Colonel Everest was quoted as saying the F-111 has a "leg up" in Category III testing because of its combat experience. This testing is system evaluation under an operational environment, usually simulated.

"It has speeded up the growth of the airplane 200 per cent," Colonel Everest said, "We had a constant feedback of data from the field to the people concerned with the operational test and evaluation program and in addition initiated a lot of time compliance tech orders ourselves."

The colonel said the F-111 "compared quite favorably" with other fighter-type aircraft in terms of maintainability and reliability.

According to the article, no problems cropped up with the variable sweepback wing mechanism. Further, the airplane got approximately 150 landings per set of tires (compared with 10 to 20 on an F-104), brake maintenance was minimal, and pilot "gripes" were normal.

Sergeant Anderson said: "Maintainability in the field is outstanding: everything is easy to get to." He added that the requirement for special stands and equipment is minimal.



WATERFRONT—General Dynamics Marine Technology Center, located on San Diego Bay, includes 320-foot towing basin, largest of kind on West Coast (see arrow).

Improved Icebreaker Hull Design Expected From Tow Basin Tests

General Dynamics' Marine Technology Center on San Diego Bay has taken on a number of new assignments, according to William Barkley, manager of MTC's hydrodynamics and towing basin facility.

Upcoming projects include water-ditching procedure tests in conjunction with new aircraft designs, and experimental tests in submarine mating. These activities are in addition to the center's normal flow of test projects for the Navy, Coast Guard and local shipyards.

The center recently fabricated and tested two models which the Coast Guard hopes will lead to improved hull design for future icebreakers.

Water-ditching tests previously were conducted at the basin on the F-106, XY2F and R3Y, as well as regular landing tests with water-based aircraft. These tests determine the best techniques for allowing maximum pilot egress.

Submarine mating studies still are in the design stage and are geared primarily for deep-sea rescue operations.

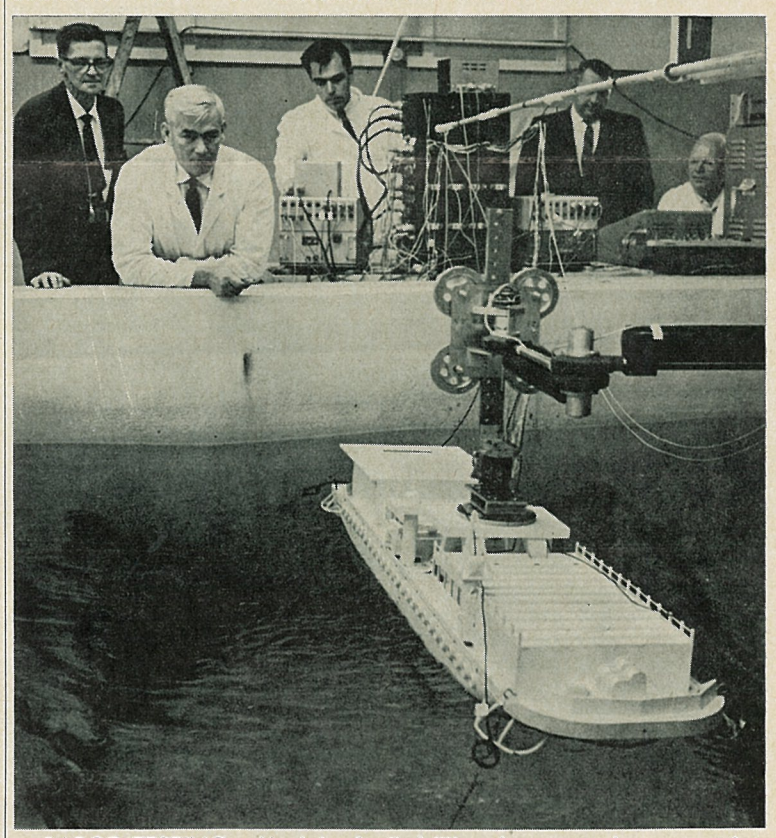
Tests presently are being conducted on a scale model of an off-shore, oil-drilling barge. They will determine the percentage of time the barge will be able to maintain drilling position while at off-shore locations.

The model is subjected to wave and wind action tests at varying angles for amount of roll, pitch, yaw, heave, sway and surge, in addition to tension exerted on its mooring lines.

Model values are measured and recorded and then expanded to full-scale values to determine what the barge's reactions would be against waves of from 5 to 40 feet and winds of from 25 to 125 knots.

Tests are conducted in MTC's 320-foot towing basin, largest of its kind on the West Coast. The basin offers up-to-date equipment and techniques for virtually all kinds of hydrodynamic testing.

Complete model design, fabrication, testing, date analysis, photographic and computer facilities are available.



BARGE TESTING—Model of oil-drilling barge undergoes string gauge and motion instrumentation tests in MTC's towing basin. Observing are, from left, W. B. Barkley, hydrodynamics and towing basin manager; Clay Terry and David Carroll, test engineers; A. W. Adams, MTC operations manager; S. T. Wood, instrumentation technician.



Roger Lewis to Chair Campaign Boosting U.S. Bonds in 1969

Roger Lewis, president of General Dynamics, has been named to the Treasury Department's U. S. Industrial Payroll Savings Committee by Henry Fowler, Secretary of the Treasury.

Lewis will serve as chairman for the Electronics and Electrical Equipment Industry for the 1969 U.S. Savings Bonds Campaign. The IPSC is composed of 57 business and industrial leaders and is charged with planning and leading the national effort to increase sales of U.S. Savings Bonds and Freedom Shares through payroll savings.

In accepting the industry chairmanship, Lewis said:

"I believe businessmen should be willing to serve in capacities where they can contribute to the nation's economic well-being. The bond program is a unique opportunity to contribute to the strength of our country."

Lewis will attend a meeting of the committee on Jan. 8 in Washington, D.C. at which Secretary of the Treasury Henry H. Fowler and other leading government officials will speak.



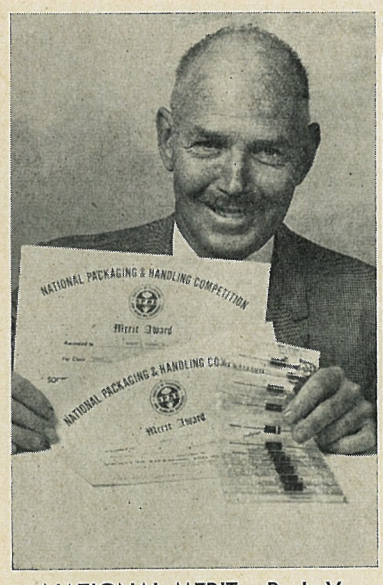
QUALITY LEADERS—Members of General Dynamics' Reliability and Maintainability Panel and Quality Panel met jointly Dec. 4-6 in Pomona. George Schwab, Canadair, is quality panel chairman. Dr. C. B. Moore, Fort Worth, heads panel on reliability and maintainability. C. F. Horne, Pomona division president, spoke at opening session and H. J. Stuart, Pomona director of quality assurance, was host. Panels scheduled joint sessions first two days and held separate meetings final day.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers within General Dynamics. In parentheses are dates when individuals joined the Company.)

KARL M. GRETTENBERGER (1965) from Electronics, San Diego to Convair division as manufacturing development engineer; **SAM HUMPHREY** (1960) from Convair to engineering drawing checker, Stromberg Datagraphics; **JAMES MINER** (1964) from Convair to Pomona as senior dynamics engineer; **ROBERT M. MITCHELL** (1955) from Convair to Stromberg Datagraphics; **LLOYD W. BRUBAKER** (1967) from Stromberg-Carlson to Quincy; **EMILIO P. CALUORY** (1958) from Electric Boat to design draftsman, Convair; **DONALD K. WHYNOTT** (1965) from Electric Boat to Electronics, Dynatronics Operation as supervisor of personnel administration; **CURTIS L. STEVENS** (1962) from Convair to Electric Boat; **RONALD T. WHALEY** (1968) from Convair to Pomona as electronics engineer; **WILLIAM N. WHITESIDE** (1961) from Fort Worth to traffic representative, Pomona.



NATIONAL MERIT—R. J. Vogler Jr., Convair materials handling and packaging engineer, displays plastic electronic component carrier which won two merit awards in national competition.

Plastic Carrier Design Winner

Convair division received two merit awards at the Society of Packaging and Handling Engineers' recent 20th national technical seminar and competition in Hartford, Conn.

The awards—in packaging and materials handling divisions—both were for a two-piece transparent plastic carrier for semi-conductor devices and other small electronic component parts.

R. J. Vogler Jr., materials handling and packaging engineer, said the plastic blister-type carriers were produced to meet Convair requirements by Life Line Products Inc. of El Cajon, Calif., and now are being distributed nationally.

The carriers have friction-type closures, eliminating the need for tape or heat sealing, and can be opened and closed quickly as needed as the small components are moved from one location to another.

Design of the carrier's "blisters" permits use of the same package for components after they have been formed or "tipped."

Ten of the carriers are produced together with break-away perforation between each. Identification of the component is stamped or taped.

Vogler said the carriers have been in use at Convair about a year and make possible in-package testing of components and minimum product handling.

Burt Brockett and Bud Smith of art and editorial Dept. 517-0 produced a display board on which a sample was exhibited for the national competition.

Convair last year won a national fourth-place award in the SPHE competition for an inflatable cover for use in in-plant protection of thin-wall stainless steel bellows on Atlas launch vehicles.

Coast Guard Seeking More Navigation Buoys

(Continued from Page 1)

In addition, the buoy has satisfied the requirement of three months' minimum service time. Longer periods, up to six or seven months, are considered attainable with the existing design concept.

Convair division designed the prototype buoy with all electrical work executed at Lindbergh Field, as well as the superstructure. The hull was built by GD's Electric Boat division.

The buoy utilizes the hull shape and powerplants developed by Convair for the Office of Naval Research's Ocean Data Stations, but with internal changes and a new superstructure. It weighs 50 tons empty and is ballasted to 100 tons on station. It can operate in 150-knot winds, 60-foot waves and a 10-knot current. The hull is 40 feet in diameter, 7.5 feet thick with an over-all height of 85 feet, including the radio beacon antenna.

Equipment is arranged in four central compartments, surrounded by flotation and ballast compartments that protect against collision damage. Power is generated by two battery banks charged by four engine-generators operating on propane fuel.

Aids to navigation include a light, fog signal and radio beacon. Additionally, the buoy itself is both a daymark and a radar target. An emergency obstruction light also is provided.

Performance of the aids to navigation, power system and other equipment required for the buoy's principal role is monitored at a control console ashore. The station also is equipped to format, process and record oceanographic and meteorological data.

The Coast Guard's request calls for design and construction of four similar buoys with modification and refinements of the prototype. First step will be response by interested firms, followed by submission and evaluation of technical proposals by the government.

Second step will consist of formally advertised bids for a firm, fixed-price contract.

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Vessels Rely On Buoy For Safe Approach

(Continued from Page 1)

sels. Ships take "fixes" on it after identifying it in daytime through its color design, number and type of superstructure.

At night, the buoy can be identified by its flashing light code —a one-second flash every four seconds. In fog, the signal is a two-second blast every 20 seconds.

Twelve mile daymark ranges of the buoy with 7x50 binoculars have been reported with unaided visual sightings at five to seven miles. A range of five miles with the unaided eye was the design objective.

Coast Guard vessels assigned to study effectiveness of the buoy's primary light reported observations ranged from "clearly visible" on a slightly hazy night at seven miles to "visible" at 11 miles and beyond. Sound level produced by the fog signal met requirements for a three-mile signal.

Performance of the radio beacon far exceeded the minimum requirement of 10 miles. Field strength of the radio beacon installation actually met requirements for a nominal service range of 20 miles.

During one observation period, beacon transmissions from the buoy were clearly heard by one Coast Guard vessel at 85 miles. Radar range was established at approximately 12 miles. Radio beacon transmissions and radar signals also are coded for identification purposes.

Three Courses Begin Jan. 7

Three University of California Extension courses will be offered at Convair's Kearny Mesa plant beginning Jan. 7.

"Leadership principles and practice," with David Chigos of Dept. 130-3 as instructor, will meet 5 to 9 p.m. Fridays and 8 a.m. to 5 p.m. Saturdays Jan. 10 through Feb. 8. Lectures and a "sensitivity training" laboratory will be included.

"Methods and procedures for information systems," with Charles K. Twohey of Dept. 170-1 as instructor, will be held 5 to 8 p.m. Wednesdays Jan. 8 through March 19. Completion of "Introduction to Information Management" or an equivalent course or permission of the instructor is a prerequisite.

"Introduction to information processing and computer programming," with Fred Schwend of Dept. 170-1 as instructor, will be given 5 to 8 p.m. Thursdays Jan. 9 through March 20.

"Computer programming," also taught by Schwend, will meet 5 to 8 p.m. Tuesdays Jan. 7 through March 18. Those enrolling must have completed "Introduction to information processing and computer programming" or "Electronic computers in business" or an equivalent course or have consent of the instructor.

Cost for each of the courses is $60. Phone educational services, ext. 1931 KM, for additional information.

Convair Man On TV Panel

A Convair division representative is one of three experts appearing on an hour-long program on non-destructive testing (NDT) being aired during the next few weeks on major educational TV channels across the country.

K. M. Boekamp, Dept. 149-0 reliability program administrator, discusses the need and methods of NDT, radiographic applications and NDT personnel and training. NDT training manuals developed by Convair in cooperation with NASA, now being used widely in more than 35 countries, are shown.

The program, one of a weekly "R & D Review" series moderated by Dr. A. R. Hibbs of Jet Propulsion Laboratory, can be seen locally at 10 p.m. tomorrow (Dec. 19) and at 5 p.m. Dec. 22 on Los Angeles station KCET, Channel 28, or at 4 p.m. Dec. 29 on San Diego station KEBS, Channel 15.

Other participants are Robert W. Neuschaefer of NASA's Marshall Space Flight Center and W. C. Hitt of Automation Industries in Santa Clara. The program was coordinated by Matt King, west coast technology utilization representative for NASA-Marshall.

Material Dept. 'Adopts' Families; To Provide Dinners and Gifts

Convair division's material department functions at Kearny Mesa and Lindbergh Field have "adopted" 14 Convair employe families for Christmas.

W. J. Borden, chairman of a nine-member committee appointed by H. E. Moose, director of material, to coordinate the program, said each of the families will receive a turkey dinner, boxes of canned goods, children's toys and gift certificates with a value of several hundred dollars for clothing and food purchases.

Families were selected from among Con-Trib-Club Emergency Aid assistance cases.

A total of 105 family members — 27 adults and 78 children — are involved. CRA Garden Club will provide the Christmas dinner for one of the families.

H. W. Fuller of material department, a Con-Trib committee member, said each of the families being aided has been plagued with catastrophic emergencies.

"Many of the parents have had major medical problems requiring lengthy hospitalization and convalescence," he said. "In some cases, both parents and children have had serious illnesses or accidents."

The coordinating committee, in addition to Borden and Fuller, includes D. W. Schultz, Doris Parker, Leo W. Klingenmeier, H. A. Billings, M. A. Grove, V. O. Olson and V. D. Jennewein.

Material department employes last year provided Christmas gifts, food and clothing for 12 needy families in the county through the Salvation Army and for one family of a material department employe.

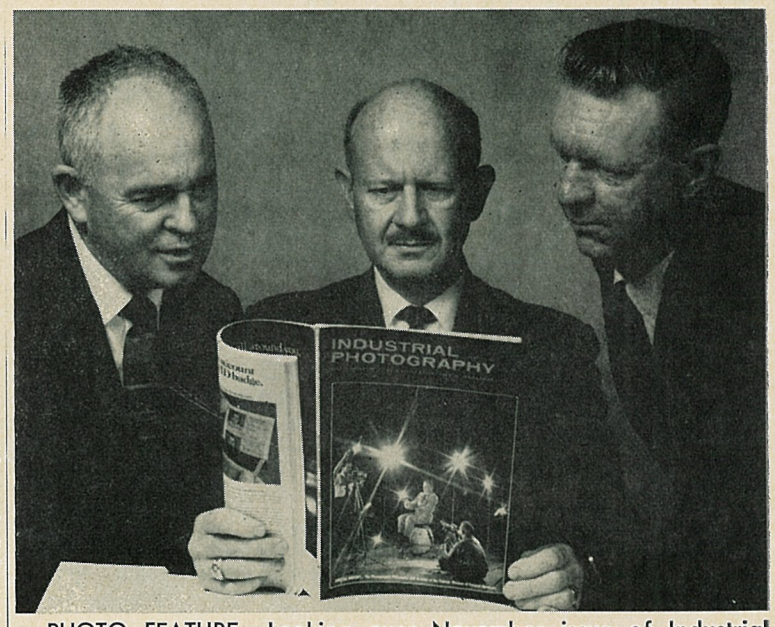


PHOTO FEATURE—Looking over November issue of Industrial Photography magazine, which featured Convair photographic activities, are, left to right, E. H. Boldrick, chief of still photography; Robert Montague, chief of motion pictures and television; W. G. Henshaw, assistant program manager for Launch Complex 39 operational TV system.

Article in Magazine Features Convair Photographic Activity

Convair division's diverse photographic activities and capabilities were featured in the November issue of Industrial Photography magazine.

Included were articles on the division's motion picture and television activities, Launch Complex 39 operational TV system, and still photographic and photo reproduction operations.

The full-color cover photo by Walt Gault showed Robert Brazell, life sciences senior research engineer, using a hand-held astronaut maneuvering unit while riding an air bearing scooter as he was photographed by Jim Martin and filmed by Bill Carter. Quartz-light "sun guns" created interesting patterns.

Robert Montague, chief of motion pictures, and television, handled arrangements. Betty Miller produced and edited much of the text material.

Jack L. Bowers, Convair general manager, P. D. Ferrara, director of engineering administration and services, and Howard Kennedy, manager of graphic services, were quoted in the introductory article.

A photo of Saturn V on its crawler, with camera positions on the tower, was among illustrations used with information on Convair's development, installation and maintenance of the operational TV system for Apollo Launch Complex 39 at Merritt Island.

Bowers to Explain Objectives For '69

Convair division objectives for 1969 are scheduled to be announced by Jack L. Bowers, general manager, Jan. 7 at meetings for supervisors at Kearny Mesa and Lindbergh Field.

New Journeyman Certificated, Climaxing Apprentice Training

Kory L. Bratlien of Convair's electronics manufacturing Dept. 780-6 received a journeyman electronics technician certificate in recent ceremonies at Kearny Mesa after successfully completing 8,000 hours of on-the-job apprenticeship training.

In addition to his journeyman classification, Bratlien will receive an Associate in Science degree in June from San Diego Evening College.

In the apprenticeship program, he has been studying electronics two nights a week at the San Diego City College campus for four years in conjunction with on-the-job training.

He joined Convair in 1960 and worked as a burr hand and saw operator before entering the program in July, 1964. He is a native San Diegan and a graduate of Mar Vista High School.

Bratlien said the program has "made quite a change in my life" and "given me a strong desire to really learn electronics."

He plans to continue evening studies, then work toward a degree at San Diego State.

Bratlien said a friend in the machine shop talked him into applying for the apprenticeship program and that he "almost blew the opportunity" because he didn't think he would have a chance to be accepted.

"I have found electronics to be a real challenge," he said. "I am grateful for the help I have received from supervisors and technicians."

The apprenticeship program is sponsored jointly by Convair and the International Association of Machinists and is administered by an eight-member Joint Apprenticeship Committee.



"GRADUATE"—Kory Bratlien of Convair's Dept. 780-6, left, receives electronics journeyman certificate from Frank Kemper, electronics factory manager, as J. W. Campbell, Dept. 780-6 supervisor, adds congratulations. Ceremony marked completion of four-year on-the-job apprenticeship.

Make Sure Company Has Correct Address To Avoid Delays in Getting W-2 Forms

Delay in receiving W-2 Forms and Savings and Stock Plan statements can be avoided if employes make sure the correct Social Security number and home address appear on their pay checks.

J. L. Terrien of payroll suggests that employes verify their SS number and their checks with that of the card issued them by the Social Security Board as W-2 Form and SSP statements are mailed to the home address appearing on pay checks.

Employes having an incorrect SS number and/or home address on their check should report to the employment office for correction on company records. They should fill out pink card Form 3743 (Rev. 9-67) "Change of Address" and forward to payroll.

Con-Trib Okays $13,700 Donations

Grants and pledges totaling $13,700 for eight service organizations were approved in recent meetings by the Convair Employes' Con-Trib-Club committee.

At request of the Florida employes advisory committee, $7,500 was pledged to United Fund of Brevard County and $1,000 was granted to Florida Sheriff's Boys Ranch, $500 to Muscular Dystrophy Associations of America, $100 to Harbor City Volunteer Ambulance Squad, Inc., and $100 to Tuberculosis and Respiratory Disease Associations, Inc.

San Diego area grants included $3,500 to the Salvation Army for its Christmas programs, $500 to the Fellowship Center rehabilitation facility for alcoholics in Escondido, and $500 to the San Diego chapter of the Diabetes Association.

Educators Briefed On Convair Products

About 125 members of the San Diego County Board of Education, county schools' staff and superintendents, principals and vice-principals from school districts throughout the county visited Convair division's Kearny Mesa plant Dec. 11.

The group was briefed on division programs, products and future plans by Ray T. Blair Jr., assistant to the general manager, had dinner in the executive dining room and was taken on a plant tour.

Admiral Pays Convair Visit

RAdm. Joseph L. Howard, SC, USN, deputy director of Defense Supply Agency (Contract Administration Services), was a recent visitor to Convair division's Lindbergh Field and Kearny Mesa plants.

On a nationwide tour of DCAS facilities, the admiral conferred with Col. Charles F. Merz, DCAS plant representative at Convair, and he was given a review of Convair projects by General Manager Jack Bowers.

The visit was something of a homecoming for Adm. Howard. He not only had a tour of duty at the Naval Supply Depot here, but he attended San Diego High School and San Diego State College and later married a San Diego girl, the former Irene Silver.

25-Mile Bike Ride To Include Picnic

CRA Bicycle Club members will combine a 25-mile ride with a picnic lunch at the county park near Lower Otay Lake on Saturday, Dec. 28.

The cyclists will meet at 9 a.m. at Southwestern College, 5400 Otay Lakes Rd., Chula Vista, and will ride east on Telegraph Canyon Road to Camp Minnewawa before turning back and pedaling south along the lake to the park.

Phone Dick Gilbert, ride leader, ext. 1267 LF or (home) 223-8848, for additional information.

New Class Starting For Square Dancers

First session in a beginners square dancing class will be held Tuesday, Jan. 14, 8 p.m. in the CRA Clubhouse. Registration will be taken that evening as well as sessions on Jan. 21-28.

Caller will be Clark Elliott, the regular Dynamic-Eights caller. A donation of 50 cents per lesson is being asked. Additional information can be obtained by contacting J. B. Young at ext. 2440, L.F.

Convair Man's Son Wins Flying Cross

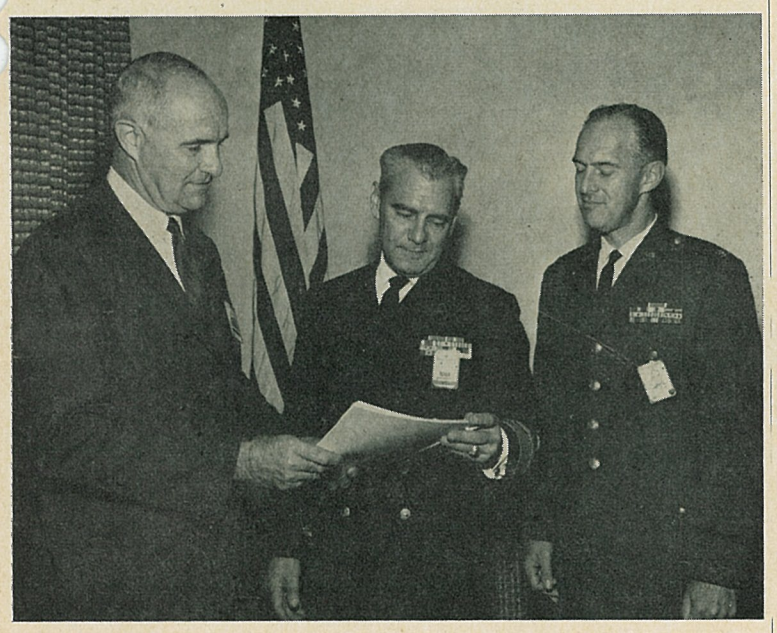
The son of a Convair division design specialist has been awarded the Distinguished Flying Cross by the Air Force. He is S/Sgt. Edward C. Ewert Jr. of El Cajon, the son of E. C. Ewert of Dept. 587-0.

The senior Ewert has been with Convair 28 years. His son was cited for extraordinary aerial achievement while landing and delivering ammunition in the face of hostile fire at Hue, Viet Nam, on Feb. 19 of this year.

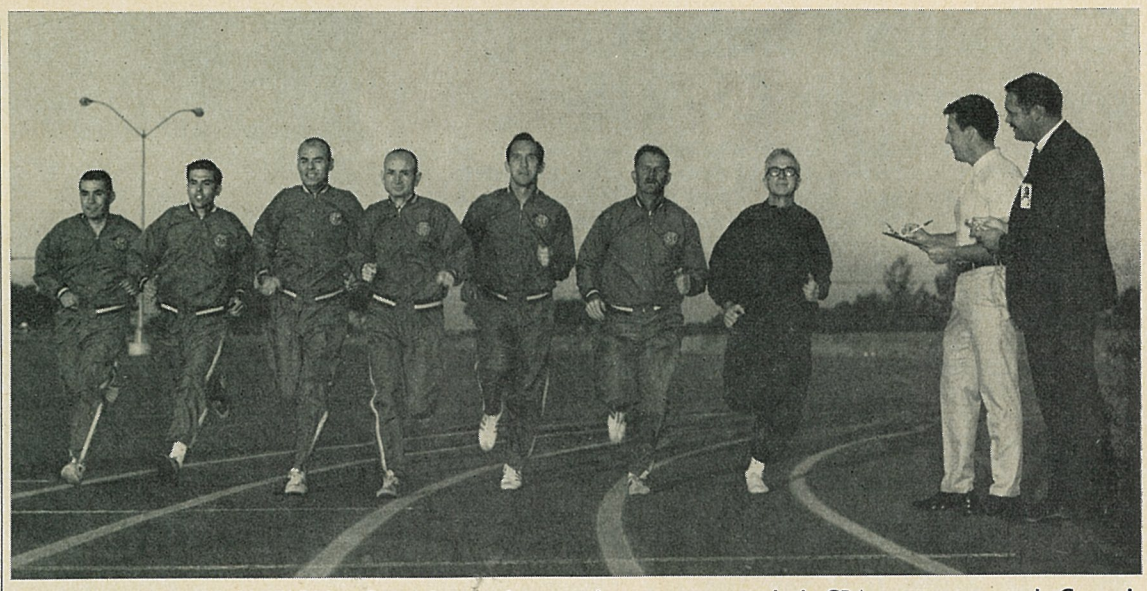
AC-19 and 20 Readied For Mars Missions

Convair's Atlas-Centaur 20 vehicle was erected at Complex 36-B at the Eastern Test Range last week. Atlas-Centaur 19 has been in place at Complex 36-A since October.

Mariner spacecraft for Mars flyby will be launched in the AC-19 and AC-20 missions, scheduled about 10 days apart during the first quarter next year.



VISITOR—RAdm. Joseph L. Howard, deputy director of Defense Supply Agency, Contract Administration Services, center, is given rundown on Convair division projects by General Manager Jack Bowers, left. Col. Charles F. Merz, Convair's DCAS plant representative, is at right.



RUNNING RECOGNITION—Convair employes who were awarded CRA warm-up and Convair Management Club wind-breaker suits take lap around new track as Ralph Mansfield, CRA Health Club director, and George Schmiedel, supervisor of recreation, right, check time. From left, John Martinez, Bill Marks, Bill Walker, Fred Minter, Wayne Groesbeck, Richard Christopher, Bill Dawsey.

CRA Calendar

(For information on CRA activities call CRA headquarters, ext. 1111 Kearny Mesa. Deadline for next issue of GD/NEWS is Dec. 31. Call ext. 1071 LF or 3322 KM. All meetings are held in CRA Clubhouse unless otherwise noted.)

★ ★ ★

ADVENTURERS — Meeting tonight, 7:30 p.m.

BADMINTON—Play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BICYCLE CLUB—Otay Lakes ride, Dec. 28. Meet 9 a.m., Southwestern College, Chula Vista.

BRIDGE—Duplicate bridge sessions each Friday, 7:30 p.m.

CERAMICS—Meet each Tuesday and Thursday, 7-10 p.m.

CHESS—Play each Wednesday, 7 p.m.

CHORUS—Rehearsals 7:30 p.m., Mondays. Sing tonight, University Hospital; Dec. 20, Mercy Hospital.

COINERS—Christmas meeting and gift exchange, 8 p.m., Lindbergh Field cafeteria.

FENCING—Workouts and instruction Friday, 7:30-10 p.m.; YWCA, 10th and C Streets.

FISHING CLUB—Fishing trip to Lake Jennings, Jan. 11-12. Fish Fry, Pot Luck.

GARDEN CLUB—Meeting Jan. 8, 7:30 p.m. in Floral Bldg., Balboa Park.

HEALTH CLUB—Open 9:30 a.m. to 10 p.m., Monday through Friday; 10 a.m. to 5 p.m., Saturdays. Call ext. 1111 KM.

ICE SKATING—GD family skate nights Thursday, 6:15 to 7:45 p.m.; Mission Valley Ice Arena.

JUNIOR SCIENCE—Meeting and workshop Dec. 20, 7:30 p.m.

MINIATURE RAILROAD—Work sessions Saturdays and Sundays, CRA Missile Park.

MODEL HO RAILROAD—Work sessions each Tuesday, 7 p.m., CRA Missile Park.

PISTOL CLUB—Next shoot Dec. 22, 9:15 a.m., S.D. Police Pistol Range.

RADIO CLUB—Meets tomorrow, Dec. 19, 7:30 p.m.

RIFLE CLUB—Juniors shoot Jan. 4, 1 p.m. Gillespie Field Range.

SCULPTURE—Workshop sessions each Monday, 7-10 p.m.

SQUARE DANCE CLUB—Dance 8-10 p.m. each Thursday.

TOASTMASTERS—Convair Toastmasters No. 3745 meet each Wednesday, 4:30 p.m.; Dynamic Toastmasters No. 457, Thursdays, 5:15 p.m.

Three Divide Pistol Honors

Warren Walker, Dick Sutton and Don O'Brien took class honors in recent Convair Pistol Club .45 caliber competition.

Walker topped the master class with a 294-13x. Roland Schneider was runnerup with a 286-10x. Sutton's 277-6x prevailed in expert class with second place going to Bill Dittmann (252-1x).

O'Brien captured the .45 caliber short national event with a 280. Trailing were Schneider 262, Jim Halfacre 252 and Walker 232.

Sutton and O'Brien took turkeys in the "Luck Shoot," Sutton's 40 taking high score and O'Brien's 17 low.

Convair Attorney Appointed Counsel

Neil F. Martin, patent attorney for Convair division since March, 1967, has been appointed patent counsel for the division. He reports to H. Cushman Dow, division general counsel.

Martin holds an engineering degree from Lehigh University in Pennsylvania and his law degree from The American University in Washington, D.C.

Before joining Convair, he was employed as a patent advisor for the U.S. Navy in Washington and served three years as patent examiner for the U.S. Patent Office.

New Lighted Running Track Adjoins CRA Missile Park

CRA Health Club has established a new quarter-mile lighted running track on the parking lot which adjoins Missile Park at the northeast corner of the Kearny Mesa plant.

The track will be lighted from dusk until 10 p.m., closing time for Health Club facilities, for employe use.

Ralph Mansfield, Health Club director, said the track's yellow striping includes a marked 100-yard straightaway and staggered start lines for 220 and 440-yard runs and relay races.

Mansfield said first track and field event time trials on the new track will be scheduled early next year.

Six division employes who ran more than 1,000 miles each during the first year of the club's formal running program recently were awarded CRA warm-up suits in recognition of their achievement.

They were Richard "Chris" Christopher, Wayne Groesbeck, Bill Marks, John Martinez, Fred Minter and Bill Walker. Marks ran 226 miles during the last month and eight miles the last day to qualify for his suit.

Seven Health Club runners who also are members of Convair Management Club have been presented wind breaker suits from Management Club for completing more than 500 miles in the program.

They were Christopher, Minter, Groesbeck, Walker, Bill Dawsey, Paul Green and Bill Black.

Fast and Slow-Break Hoopsters Launch League Play in January

Seven teams in the CRA fast-break basketball plant league will be playing at 1 p.m. Sundays and 6:30 and 7:40 p.m. Wednesdays at Municipal Gym in Balboa Park in first half season play, beginning Jan. 5.

They are Cosmo Bums, Underbrush, 595, Plastics, Aero, Flight Control and GD-E Bombers. One team will draw a bye each week.

Eight teams in the slow-break plant league also will play at Municipal Gym at 8:50 p.m. Wednesdays and 6:30, 7:40 and 8:50 p.m. Thursdays beginning Jan. 8.

They are Underdogs, Patton's Pros, Spoilers, Gasp, Plant 1 Bullets, GD-E Dirty Dozen, Stromberg Supporters and Stromberg Datagraphics.

If two teams are tied at the end of either half of the season in either league, a single playoff game will determine the winner of the half. First and second half winners will have a playoff game to determine plant championships in each league.

Following are first-half season schedules:

FAST-BREAK

Jan. 5—1 p.m., Cosmo Bums vs Underbrush; Jan. 8—6:30 p.m., Aero vs Flight Control; 7:40 p.m., Bombers vs 595.

Jan. 12—1 p.m., Cosmo Bums vs Aero; Jan. 15—6:30 p.m., Plastics vs 595; 7:40 p.m., Bombers vs Underbrush.

Jan. 19—1 p.m., Cosmo Bums vs Flight Control; Jan. 22—6:30 p.m., Plastics vs Underbrush; 7:40 p.m., Aero vs. Bombers.

Jan. 26—1 p.m., Flight Control vs Bombers; Jan. 29—6:30 p.m. Underbrush vs 595; 7:40 p.m., Plastics vs Aero.

Feb. 2—1 p.m., Cosmo Bums vs Bombers; Feb. 5—6:30 p.m., 595 vs Aero; 7:40 p.m., Flight Control vs Plastics.

Feb. 9—1 p.m., Cosmo Bums vs Plastics; Feb. 12—6:30 p.m., Underbrush vs Aero; 7:40 p.m., 595 vs Flight Control.

Feb. 16—1 p.m., Cosmo Bums vs 595; Feb. 19—6:30 p.m., Bombers vs Plastics; 7:40 p.m., Underbrush vs Flight Control.

SLOW-BREAK

Jan. 8—8:50 p.m., Gasp vs Bullets; Jan. 9—6:30 p.m., Underdogs vs Dirty Dozen; 7:40 p.m., Patton's Pros vs Datagraphics; 8:50 p.m., Spoilers vs Supporters.

Jan. 15—8:50 p.m., Gasp vs Underdogs; Jan. 16—6:30 p.m., Patton's Pros vs Dirty Dozen; 7:40 p.m., Spoilers vs Datagraphics; 8:50 p.m., Supporters vs Bullets.

Jan. 22—8:50 p.m., Gasp vs. Patton's Pros; Jan. 23—6:30 p.m., Spoilers vs Bullets; 7:40 p.m., Datagraphics vs Dirty Dozen; 8:50 p.m., Supporters vs Underdogs.

Jan. 29—8:50 p.m., Datagraphics vs Gasp; Jan. 30—6:30 p.m., Spoilers vs Dirty Dozen; 7:40 p.m., Bullets vs Underdogs; 8:50 p.m., Supporters vs Patton's Pros.

Feb. 5—8:50 p.m., Datagraphics vs Supporters; Feb. 6—6:30 p.m., Spoilers vs Underdogs; 7:40 p.m., Gasp vs Dirty Dozen; 8:50 p.m., Bullets vs Patton's Pros.

Feb. 12—8:30 p.m., Underdogs vs Patton's Pros; Feb. 13—6:30 p.m., Spoilers vs Gasp; 7:40 p.m., Supporters vs Dirty Dozen; 8:50 p.m. Bullets vs Datagraphics.

Feb. 19—8:50 p.m., Gasp vs Supporters; Feb. 20—6:30 p.m., Bullets vs Dirty Dozen; 7:40 p.m., Spoilers vs Patton's Pros; 8:50 p.m., Underdogs vs Datagraphics.

Coineers Slate Christmas Program

Convair Coineers will hold their annual Christmas meeting and gift exchange tonight (Dec. 18) at 8 o'clock in the Lindbergh Field cafeteria. Music will be provided by Herb Rubottom's combo.

About 150 members and guests, including Convair scoutmasters and scouts, attended the Nov. 20 meeting. M. E. Thomas discussed scouting and its numismatic emphasis. Also speaking briefly were W. H. MacKinnon, scoutmaster of La Mesa Boy Scout Troop 315, and Alex Rinaldi, leader of Webelos Den 3 of Cub Scout Pack 954.

Bargains Offered On Arena Tickets

Reduced-price tickets for three upcoming events at San Diego International Sports Arena are on sale at all Convair employe services outlets.

Tickets for the Dec. 30 basketball game between the San Diego Rockets and Los Angeles Lakers are $3 (a $1 saving).

Cost of tickets for the Jan. 11 San Diego Gulls hockey game with Seattle are $2.25 (a 75-cent reduction).

Tickets for the 6 p.m. Jan. 19 "Holiday on Ice" performance are $4 and $2 (a $1 saving).

California 'Bombed' By Canadair CL-215

Canadair's spectacular CL-215 "water bomber" carried out a week of highly successful demonstration flights in California for press and customers this month, operating from Sacramento Municipal Airport and using Lake Folsom for water supply.

Four or five "scoops and drops" were made each day, with the forest fire fighter skimming the lake to pick up a load of water on each pass.

Among more than a score on board for demonstrations were Gen. Andrew Lolli (USAF ret.) of General Services Administration, Sacramento, Monty Pearce, chief of fire control, U. S. Forestry Service, James Stearns, California director of conservation, and Floyd W. Waklee, equipment engineer, California Forestry Division. From U. S. Forestry Region 5 were Lee Meyers, chief pilot, and Cal Ferris, aircraft analyst.

Majority of the guests were pilots and a number of them took a turn at the controls. Canadair's CL-215 test pilot, Douglas Adkins, performed most of the flight duties for the California visit. After the demonstrations the plane flew cross-country to Patuxent, Md. to continue "porpoise" tests there.

Although Canadair had a ground crew present, the aircraft needed no attention and went through its paces "as though it had been in service for years."

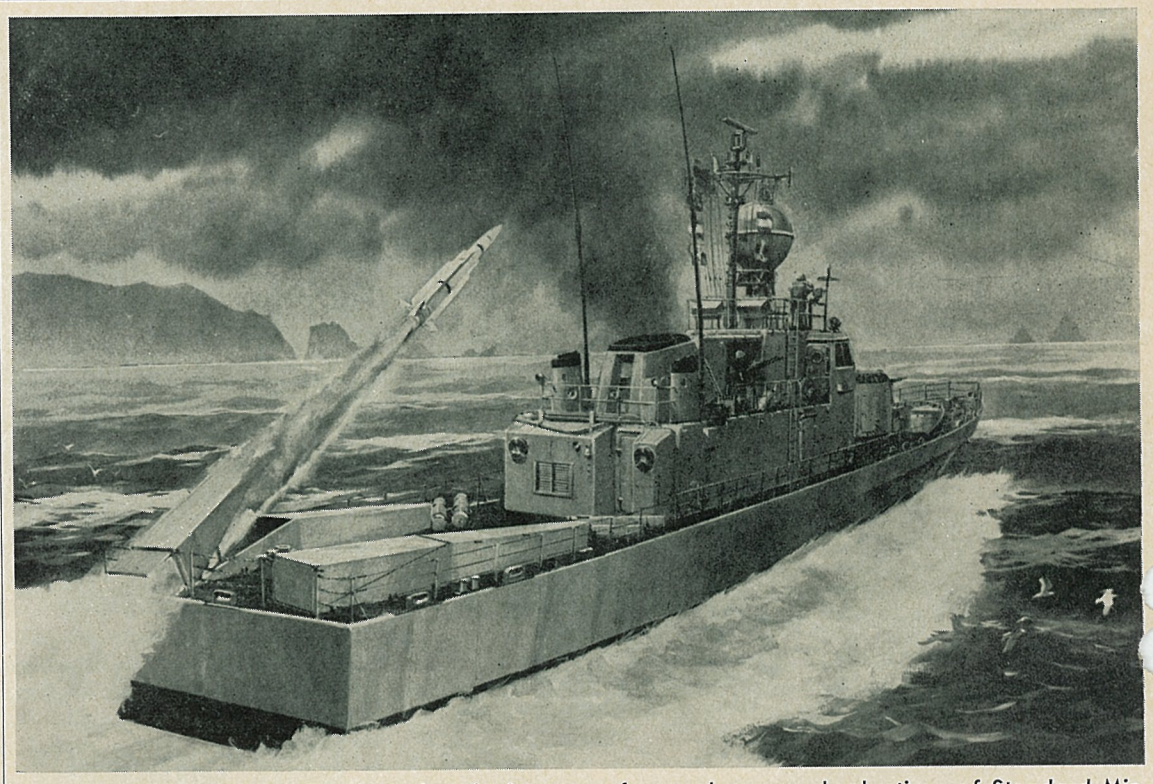
Among guests on board were representatives of major commercial companies operating in the state that specialize in aerial fire fighting. Observers said the comparison between the CL-215's performance and that of equipment now in use was obvious and striking.

The CL-215 can scoop up 1,200 imperial gallons or 12,000 pounds of water and then drop it on fire targets. It can skim the water surface at 70 knots to pick up its water cargo in 12 seconds.

Fighting a fire 100 miles from base, the plane can make 75 water pickups and drops in a single day's operations with only one refueling stop necessary.



VERSATILE—CL-215 "water bomber" can spray chemicals as well as water while fighting forest fires from the air.



UP AND AWAY—Artist's conception depicts one of several proposed adaptions of Standard Missile for defense against both surface and aerial threats. Standard Missile, currently in production at Pomona division, is an all-electric, high performance missile employing solid state electronics.

Non-Destructive Testing Courses Scheduled to Begin in January

A series of three-week non-destructive testing (NDT) training courses for selected supervisory and engineering personnel from General Dynamics operating units will be offered at Convair division beginning next month.

Konrad M. Boekamp, Convair NDT Training School administrator, said the courses will stress the know-how required for knowledgeable "quality determination" in order to improve quality and reliability of products and reduce costs.

Each of the six courses scheduled through June will include classroom and laboratory training on applications and limitations of radiographic, eddy current and ultrasonic testing. Magnetic particle and liquid penetrant testing also will be discussed and evaluated in comparison with other test methods.

"The decision maker must have a good working knowledge of non-destructive testing to properly establish and use NDT policies, procedures, standards and overall requirements throughout the life of our products—through design, prototype development, production, testing and in-use maintenance," Boekamp said.

"As an indispensable tool in building quality, NDT involves not only testing techniques but the art of choosing the proper test, scheduling it at the right time, evaluating results and comparing the results with pre-determined standards.

"Management also must be aware of the limitations of the processes involved in order to apply NDT methods intelligently and economically."

The three-week courses, each limited to 12 students, are scheduled Jan. 6-24, Feb. 3-21, March 3-21, April 7-25, May 5-23 and June 2-20 at Convair's Kearny Mesa plant in San Diego.

Each will cover radiographic testing the first week, eddy current testing the second week and ultrasonic testing the third week. In addition to General Dynamics personnel, representatives from commercial airlines and other aerospace and industrial firms will attend.

Boekamp said sufficient theory of radiography will be taught for production and interpretation of radiography. Attendees will see and operate radioactive isotope, portable and stationary X-ray, fluoroscopic and image orthicon equipment and will observe vidicon, laminography and flash-radiography demonstrations.

In the classroom, each student will have an individual microfilm viewer for use with more than 1,500 microfilms of radiographs of assorted material and product specimens.

Ultrasonic test instruction will provide general knowledge of generation and action of ultrasonic waves with students participating in a variety of procedures including immersion, contact and resonant testing and A and C scan recording.

Instructors will include Neal Kane, Ed Martindale, R. T. Anderson, Gerhard Gross, Milton Rosengren, Boekamp and NDT engineers from Convair laboratories.

The Convair NDT school has been conducting courses for personnel from Convair, U.S. Navy, Defense Contract Administration Services and other industrial firms for 18 months.

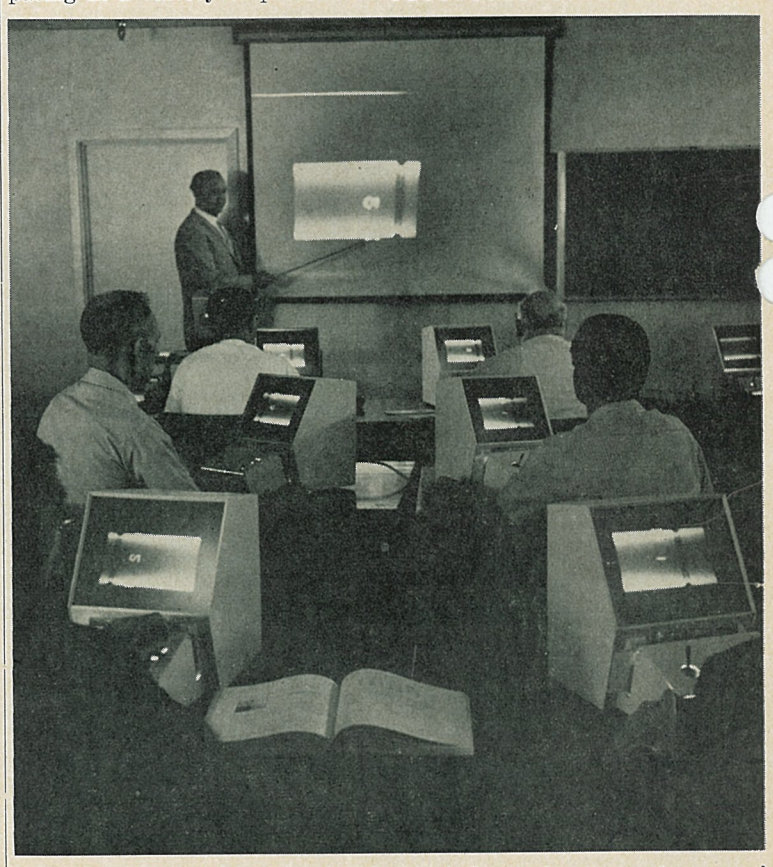
Arrangements for attending the special courses for General Dynamics supervisors and engineers will be handled through educational services chiefs of the divisions and operating units.

Additional information can be obtained from the Convair division NDT Training School, Mail Zone 149-00, P.O. Box 1950, San Diego, Calif. 92112.

Social Security Taxes to Increase

Federal Social Security taxes (FICA) will be increased for 1969 and 1970 from 4.4 per cent of $7,800 to 4.8 per cent of $7,800.

Total FICA deduction in 1969 and 1970 will be $374.40, compared to $343.20 deducted in 1968.



TEST TRAINING—Selected General Dynamics supervisors and engineers will attend special courses in non-destructive testing management beginning next month at Convair NDT Training School. In photo, Neal Kane, chief instructor, discusses radiograph as Navy civilian NDT personnel use individual microfilm viewers.

Research Submarines Launched; To Operate at Mile Depths

Identical deep-diving research submarines, AUTEC I and AUTEC II, were launched last week at Electric Boat division.

Sponsoring the subs were Mrs. Edward J. Fahy of Washington, D.C., wife of Rear Admiral Fahy, Commander of the U.S. Naval Ship Systems Command, and Mrs. Thomas B. Owen of Washington, D.C. wife of Rear Admiral Owen, Chief of Naval Research.

AUTEC I and II, 26-foot long submersibles which can operate at depths of more than a mile, were constructed for the Naval Ship Systems Command, and are the sixth and seventh research submarines to be built by General Dynamics. Both carry three-man crews and are the first research subs to be built to military specifications.

The AUTEC vessels are equipped with television monitors, cameras, lights, sonar, gyrocompass, fathometer, and surface and underwater communication systems. Each has two hydraulically-powered manipulator arms which can pick up as much as 100 pounds at full reach. The arms can be fitted with numerous tools while submerged from a built-in storage bin.

Both boats have battery-powered side propellers and a hydraulically-driven stern propeller. They can operate at speeds up to 2.5 knots and remain submerged for eight hours.

AUTEC I, was christened by Mrs. Owen, is slated for use in projects sponsored by the Office of Naval Research at the Woods Hole Oceanographic Institution, Woods Hole, Mass.

Mrs. Fahy christened AUTEC II, scheduled to operate at the Atlantic Underwater Test and Evaluation Center (AUTEC) range off Andros Island in the Tongue of the Ocean.

Pardee Participates In Computer Talks

Convair division's Donald Pardee, manager of management systems, recently participated in an advisory capacity on a committee proposing use of a $12 million computer terminal for the Cal Western campus of United States International University.

If the proposal is adopted by USIU, it would mark the educational institution as the first in the land to require all its graduates to have a working knowledge of computers.

GD/NEWS Publishing Schedule to Slip

Because of year-end holidays, GD/NEWS will slip its publishing schedule one week. The next issue will be distributed Jan. 8.

Charles Keach Funeral Held

Charles G. Keach, manager of Lindbergh Field plant material for Convair division, died Dec. 7 in a local hospital. Funeral services were Dec. 10.

Keach returned to Convair in April, 1967, after serving 18 months as director of material at Corporate Headquarters in New York.

He previously had been with the former Astronautics division from August, 1959, until December, 1962, as manager of subcontract administration, manager of procurement and general purchasing agent. He also had been associated with Northrop Corp. for 17 years.

A brother, Glenn W. Keach, is director of pricing for General Dynamics at Corporate Headquarters.

Other survivors include his wife, Grace; a daughter, Mrs. Kay Dailard; three sons, Ken, Chris and Rick; his father and four grandchildren.